=> d his

(FILE 'HOME' ENTERED AT 14:22:39 ON 11 JAN 2007)

FILE 'REGISTRY' ENTERED AT 14:22:48 ON 11 JAN 2007
L1 STRUCTURE UPLOADED
L2 STRUCTURE UPLOADED
L3 STRUCTURE UPLOADED

L4 8 S L1 OR L2 OR L3

L5 200 S L4 FULL

FILE 'CAPLUS' ENTERED AT 14:25:08 ON 11 JAN 2007

L6 46 S L5

=> d que 16 stat

L1 STR

Structure attributes must be viewed using STN Express query preparation. L2 STR

G1 H,Ak

Structure attributes must be viewed using STN Express query preparation. L3 STR

 0^{-1} Ak

G1 X, [@1]

10/565,137 Page 2

Structure attributes must be viewed using STN Express query preparation. L5 200 SEA FILE=REGISTRY SSS FUL L1 OR L2 OR L3 L6 46 SEA FILE=CAPLUS ABB=ON PLU=ON L5

=> d 1-46 bib abs hitstr

```
L6 ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1338094 CAPLUS
T1 Preparation of cationic oligomeric azo dyes
IN Eliu, Victor Faul, Froshling, Beate, Kauffmann, Dominique
PA Ciba Specialty Chemicals Holding Inc., Switz.
PCT Int. Appl., 63pp.
CODEN: PIXXD2
T Patent
LA English
PAN.CNT 1
PAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO.
```

Disclosed are oligomeric cationic azo dyes of formula I, wherein their salts, isomers, hydrates and other solvates, wherein Rl is hydrogen, C1-C12 alkyl, which may be substituted by one or more C1-C5 alkyl, C1-C5-alkyl, which may be substituted by one or more C1-C5 alkyl, C1-C3 alkyl, wherein the Ph modety may be substituted by one or more C1-C5 alkyl, wherein the Ph modety may be substituted by one or more C1-C5 alkyl, C1-C5 alkyl, Alegon, -MLZ, mono-C1-C5 alkylamino, di-C1-C5 alkyl, X is C1-C10 alkylamino, -MO2, carboxy or hydroxy, R2 is hydrogen; or C1-C5 alkyl, X is C1-C10 alkylene, which may be substituted by one or more C1-C5 alkyl, hydroxy, C1-C5 alkyl, mino, mono-C1-C5 alkylamino, di-C1-C5 alkylamino, -SNI, and/or interrupted by one or more -O- or -S-S-; C5-C10 cycloalkylene; C5-C12 arylenes (C1-C10 alkylene); biphaylene, which may be substituted by one or more C1-C5 alkyl, hydroxy, C1-C5 alkoxy, amino,

```
ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
CRN 21228-90-0
CMF C H3 04 S
                                                                             (Continued)
```

Me-0-503-

916988-20-0 CAPLUS INDEX NAME NOT YET ASSIGNED

CM 1

CRN 110-70-3 CMF C4 H12 N2

MeNH-CH2-CH2-NHMe

CM 2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CH 3 .

CRN 916988-17-5 CMF C11 H11 F2 N4

$$\bigvee_{N}^{\mathsf{Me}} N \longrightarrow N \longrightarrow F$$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 4

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

916988-21-1 CAPLUS INDEX NAME NOT YET ASSIGNED

CM 1

CRN 109-76-2 CMF C3 H10 N2

ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) mono-C1-C5 alkylamino, di-C1-C5 alkylamino, -SH, and/or interrupted by one or more -O-, C1-C4 alkylene, -NR3-, -S- or -S-S-, R3 is hydrogen; C1-C12 alkyl; C2-C14 alkenyl; C6-C12 aryl; C6-C12 aryl; C6-C12 aryl; C6-C12 aryl; 1,3-thiazolyl; 1,2-thiazolyl; 1,3-benzothiazolyl; 1,3-benzothiazolyl; 1,3-benzothiazolyl; 1,3-4-thiadiazolyl; 1,3-4-thiadiazolyl; 1,3-4-thiadiazolyl; 1,3-4-thiadiazolyl; 1,3-4-thiadiazolyl; pyridinyl; quinolinyl; pyrzeolyl; benzomindezolyl; pyridinyl; quinolinyl; pyrimidinyl; or isoxazolyl; and n is a no. from 2-100. Furthermore, the present invention relates to novel cationic oliopmeric azo dyes, compns. thereof, esp. comprising other dyes, and to application for hair dying. Thus, 2.4-diffuorcaniline was reacted with imidazole to obtain an azo dye which was reacted withy dimethyleulfate to obtain a quaternized salt. A dye emulsion contg. 1% of the above dye was used to dye hair to a red-brown color.

916988-19-77 916988-20-09 916988-21-1P 916988-12-2P 916988-23-39 916988-24-P S16988-25-5P RL: COS (Cosmatic use); SPN (Synthetic preparation); BIOL (Biological studyl); PREP (Preparation); USES (Uses) (preparation) of cationic oliopmeric azo dyes)

916988-19-7 CAPLUS INDEX NAME NOT YET ASSIGNED CH 1

CRN 107-15-3 CMF C2 H8 N2

 $H_2N-CH_2-CH_2-NH_2$

CM 2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CRN 916988-17-5 CMF C11 H11 F2 N4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 4

ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) H2N-CH2-CH2-CH2-NH2

CM 2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CM 3 , ·

CRN 916988-17-5 CMF C11 H11 F2 N4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 4

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

916988-22-2 CAPLUS INDEX NAME NOT YET ASSIGNED

2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CM 3

CRN 916988-17-5

ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN CMF C11 H11 F2 N4 (Continued)

$$\bigvee_{N=1}^{He}\bigvee_{N=1}^{F}$$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 4

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

916988-23-3 CAPLUS INDEX NAME NOT YET ASSIGNED

CM 1 '

CRN · 124-09-4 CMF C6 H16 N2

H2N- (CH2) 6-NH2

CM 2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CM 3

CRN 916988-17-5 CMF C11 H11 F2 N4

ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS OR STN (Continued)

916988-25-5 CAPLUS INDEX NAME NOT YET ASSIGNED

CM 1

H2N- (CH2) 4-NH2

CH 2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CM 3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 4

CRN 21228-90-0 CMF C H3 O4 S

He-0-503-

L6 ANSWER 1 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN (COntinued)
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

916988-24-4 CAPLUS INDEX NAME NOT YET ASSIGNED

CH 1

CRN 56-17-7 CMF C4 H12 N2 S2 . 2 C1 H

H2N-CH2-CH2-S-S-CH2-CH2-NH2

●2 HCl

CM 2

CRN 916988-18-6 CMF C11 H11 F2 N4 . C H3 O4 S

CM 3

CRN 916988-17-5 CMF C11 H11 F2 N4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 4

```
ANSWER 2 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN 2006:1279446 CAPLUS 146:46605
```

L6 AN DN T1 Radiation-curable ink-jet ink compositions with good curability and light

TI Radiation-curable ink-jet ink compresistance
IN Yamada, Satoru Kawakami, Hiroshi
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 61pp.
CODEN: JKKKAF
DT Paten
LA Japanese
FAN.CNT 1
PATENT NO. KIND DATE

PI JP 2006328257 PRAI JP 2005-155217 GI

----20061207 20050527

APPLICATION NO. DATE JP 2005-155217 20050527

$$Y \xrightarrow{R^2} N = N \xrightarrow{R^4} B$$

$$X \xrightarrow{R^3} N = N \xrightarrow{R^4} B$$

$$X \xrightarrow{R^3} N = N \xrightarrow{R^4} B$$

AB The compas. contain cationic azo compound represented by formula I, polymerizable compds., and photoinitiators, wherein RI, R2, and R3 - H or substitute; R4 - H, alkyl, or aryl; X - CR5 or N; Y - NR6R7, SR8, or OR9; Z - O, S, or NR10; R5 - H or substitute; R6-R10 - H, alkyl, or aryl; B - N, C, and Z-containing 5-membered heterocycle; A- = counter anion. A typical

cal
composition comprised 1,6-hexanediol diacrylate 3, dipentaerythritol
hexaacrylate 7, Irgacure 1870 (photoinitiator) 0.3, and a cationic azo
compound 0.1 g,
894778-33-7 916444-84-3 916444-98-9
RL: TEM (Technical or engineered material use), USES (Uses)
(radiation-curable ink-jet ink compns. with good curability and light
resistance)
894778-33-7 CAPLUS
1H-Imidazolium, 2-[[4-(diphenylamino)-2-methoxyphenyl]azo]-1,3-bis(2,4,6trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-32-6 CMF C40 H40 N5 O

ANSWER 2 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

916444-84-3 CAPLUS INDEX NAME NOT YET ASSIGNED

CM 1

CRN 916444-83-2 CMF C46 H66 N5 O5

ANSWER 2 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

ANSWER 2 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

916444-98-9 CAPLUS INDEX NAME NOT YET ASSIGNED

CM 1

L6 ANSWER 3 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:106:1404 CAPLUS
DN 145:420855
T Photocurable dys-based ink-jet ink compositions and image recording method
IN Kawakami, Hiroshi; Shimohara, Norihide
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 47pp.
CODEN: JXXXAF

DT Patent
LA Japanese
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE
PATENT NO. KIND DATE APPLICATION NO. DATE
PATENT NO. CODEN: DATE APPLICATION NO. DATE
PATENT NO. SCHOOL OF STREET APPLICATION NO. DATE
PATENT NO. SCHOOL OF SCHOO

ane compds. The inks exhibit good UV curing efficiency and give images with good light resistance.
894778-14-4
RH: TFM (Technical or engineered material use): USES (Uses)
(magenta dye: UV-curable dye-based ink-jet inks with good curability and light resistance)
894778-14-4 CAPLUS
HH-Inidacolium, 2-[[4-[bis(4-methoxy-4-oxobutyl)emino]-2-[(3,5,5-trimethylhexyl)oxy]phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-,
hexafluorophosphate(1-) (SCI) (CA INDEX NAME)

CM 1

CRN 894778-13-3 CMF C46 H64 N5 O5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CN 2

CRN 16919-18-9 CMF F6 P CCI CCS

ANSWER 3 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 894778-13-3 C46 H64 N5 O5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-17-7 CAPLUS
IH-Imidazolium, 2-[[4-|bis(4-methoxy-4-oxobutyl)amino]-2-[(3,5,5-trimethylhemyl)oxy]phenyl]azo]-1,3-diphenyl-, hexafluorophosphate(1-)(9CI) (CA INDEX INME)

CM 1

CRN 894778-16-6 CMF C40 H52 N5 O5

L6 AN DN TI

ANSYER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2006:653111 CAPLUS 145:126000 AZC compounds with clear color and good light resistance, their tautomers, and their dye mixtures Yamada, Satoru Fuji Photo Film Co., Ltd., Japan Jph. Kokai Tokkyo Koho, 33 pp. CODEN: JKKKAF

DT Patent LA Japanese FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. . DATE PI JP 2006176745 PRAI JP 2004-342606 GI 20060706 JP 2005-70033 20050311

The invention relates to azo compds. I, useful for inks, [R1-9 = H, alkyl, aryl, alkoxy, aryloxy, alkylsulfonyl, arylsulfonyl, alkylthio, arylthio, NHZ, alkoxycarbonyl, arylsugarbonyl, acyl, acylamino, sulfonylamino, carbamoyl, carbamoylamino, alkoxycarbonylamino, halo, cyano group, NOZ, R5 = CS3 alkyl when Y = N(R12)R13, X = S, and R5 = alkyl n R1; X = N(R12)R13, R1 = H, alkyl, aryl, R12-13 = H, alkyl, aryl, Y = OR11, SR11, N(R12)R13, R11 = H, alkyl, aryl, R12-13 = H, alkyl, aryl, sloxy, aryloxy, alkylsulfonyl, arylsulfonyl, alkylthio, arylthio, NHZ, alkoxycarbonyl aryloxycarbonyl, acylamino, sulfonylamino, carbamoyl, carbamoylamino, alkoxycarbonylamino A = counter anion; R1R2, R2R12, R12R13, R13R3, and R3R4 may form ring; R6R7, R7R8, and R8R8 may form ring other than bearene ring] or their tautomers. Thus, I [R1 = O(CH2)2CCHMCH2EDutert, R2-4, R6-9 = H, R5 = aryl, n = 1, X = NCGH5, Y = N(CK2)3CCD402, X = PF6-) showed half band width 91.0 nm and molar absorption coefficient 4.09 + 104 obtained in a UV-V1S absorption spectrum. 894778-14-49 894778-17-7P 894778-59-7P 894778-61-1P 890308-13-0P 897038-16-3P 897038-22-4P 894778-33-7P 894778-59-7P 897038-20-9P RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREF (Preparation); USES (Uses) (azo dyes with clear color and good light resistance) 894778-14-4 CAPIUS (H-midscolium, 2-[(4-bis(4-methoxy-4-oxobutyl)amino]-2-[(3,5,5-trimethylhexyl)oxylphenyllazo)-1,3-bis(2,4,6-trimethylphenyl)-, heasfluorophosphate(1-) (SCI) (CA INDEX NAME)

CM 1

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-20-2 CAPLUS
IH-Inidazolium, 2-[[4-[bis(4-methoxy-4-oxobutyl)amino]-2-[(3,5,5-trimethylhexyl)oxy]phenyl]azo]-1,3-bis(4-chlorophenyl)-,hexefluorophosphate(1-) [9CI] (CA INDEX NAME)

CRN 894778-19-9 CMF C40 H50 C12 N5 O5

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-22-4 CAPLUS IH-Imidazolium, 2-[[4-(dioctylamino)-2,6-dimethoxyphenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-21-3 CMF C45 H66 N5 O2

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CRN 16919-18-9 CMF F6 P CCI CCS

894778-59-7 CAPLUS
1H-Imidazolium, 2-[[2,4-bis(octyloxy)phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CH 1

CRN 894778-58-6 CMF C43 H61 N4 O2

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-33-7 CAPLUS
1H-Imidazolium, 2-[[4-(diphenylamino)-2-methoxyphenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CRN 894778-32-6 CMF C40 H40 N5 O

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) ·

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-61-1 CAPLUS
IH-Imidazolium, 2-[[2,5-dibutoxy-4-[(4-methylphenyl)thio]phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-60-0 CMF C42 H51 N4 O2 S

L6 ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

897038-13-0 CAPLUS

IH-Imidazolium, 2-[[4-[bis(4-methoxy-4-oxobutyl)amino]-2-[(3,5,5-trimethylhexyl)oxylphenyl]azo]-1,3-bis(2-methylphenyl)-,
hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CRN 897038-12-9 CMF C42 H56 N5 O5

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

$$\begin{array}{c|c} & & & & \\ & & & & \\ i \text{-Pr} & & & \\ & & & \\ N & & N \\ & & & \\ i \text{-Pr} & & \\ & & & \\ & & & \\$$

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

897038-20-9 CAPLUS
1H-Imidazolium, 2-[(4-[bis(4-methoxy-4-oxobuty1)amino]-2-[(3,5,5-trimeth)hexyl)oxy]phenyl]azo]-1,3-bis(3,5-dimethoxyphenyl)-,
hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CH 1

CRN 897038-19-6 CMF C44 H60 N5 09

L6 ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

897038-16-3 CAPLUS
IH-Inidazolium, 2-[[4-[bis(4-methoxy-4-oxobutyl) amino]-2-[(3,5,5-trimethylhexyl) oxy]phenyl]azo]-1,3-bis[2,6-bis(1-methylethyl)phenyl]-,hexafluorophosphate(1-) [9CI) (CA INDEX NAME)

CRN 897038-15-2 CMF C52 H76 N5 O5

ANSWER 4 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 16919-18-9 CMF F6 P CCI CCS

```
ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2006:629688 CAPLUS 145:105204
AN
DN
TI
        145:105204
Azo compounds, their tautomers, and dye compositions with clear color and good light resistance
Yamada, Satoru
Puji Photo Film Co., Ltd., Japan
Jpn. Kokai Tokkyo Koho, 53 pp.
CODEN: JNOKAF
DT Patent
LA Japanese
FAN.CNT 1
PATENT NO.
                                               KIND
                                                          DATE
                                                                                   APPLICATION NO.
                                                                                                                              DATE
PI JP 2006169493
PRAI JP 2004-333304
GI
                                                             20060629
                                                                                   JP 2005-70029
                                                                                                                              20050311
                                                             20041117
```

AB The invention relates to azo compds., I and their tautomers (R1-4 = H, alky1, ary1, alkoxy, aryloxy, alkylsulfony1, arylsulfony1, alkylsthio, arylthio; R5-6 = H, alky1; R7 = alky1, ary1; m ± 1; X, Y, Z = C, N, O, S, X-, Y-, and Z-containing 5-membered ring may be condensed; A-=counter ter anion). Thus, I [RI = O(CH2) 2CHMeCH2Bu-tert, R2-4 = H, RS-7 = Me, m = 3, X = C10H21-substituted N, Y, Z = C, A = PP6] showed absorption maximum vavelength (Amax) 540.8 nm and molar absorption constant (e) 55.50 + 104.

894778-00-8P 894778-02-0P 894778-14-4P 894778-22-4P 894778-24-6P 894778-22-6P 894778-33-7P 894778-21-7P 894778-8-10-1P 894778-61-1P 894778-61-1P 894778-61-1P 894778-61-1P 894778-61-1P

894778-61-1P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (azo dyes with clear color and good light resistance)
849778-00-8 CAPLUS
IH-Imidazolium, 2-[[4-[bis(4-methoxy-4-oxobuty1)amino]-2-[(3,5,5-trimethylhewyl)oxy]phenyl|azo|-1-decyl-3-methyl-, hexafluorophosphate(1-)
(9CI) (CA INDEX NAME)

CM 1

CRN 894777-99-2 CMF C39 H66 N5 O5

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CRN 16919-18-9 CMF F6 P CCI CCS

CM 1

CRN 894778-13-3 CMF C46 H64 N5 O5

L6 ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-02-0 CAPLUS IN-Inidazolium, 2-[[4-[bis(4-methoxy-4-oxobutyl)amino]-2-[(3,5,5-trimethylhexyl)oxy]phanyl]azo]-4,5-dicyano-1-heptyl-3-methyl-, hexafluorophosphate(1-) [9CI) (CA INDEX NAME)

CRN 894778-01-9 CMF C38 H58 N7 O5

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-17-7 CAPLUS IH-Inidazolium, 2-[[4-|bis(4-methoxy-4-oxobutyl)emino]-2-[(3,5,5-trimethylhexyl)oxylphenyl]ezo]-1,3-diphenyl-, hexefluorophosphate(1-)(9CI) (CA INDEX NAME)

CM 1

CRN 894778-16-6 CMF C40 H52 N5 O5

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-20-2 CAPLUS
1H-Imidazolium, 2-[[4-[bis(4-methoxy-4-oxobuty1)amino]-2-[(3,5,5-trimethylhexyl)oxyl)phenyl]azo]-1,3-bis(4-chlorophenyl)-,
hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-19-9 CMF C40 H50 C12 N5 O5

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-24-6 CAPLUS lH-Inidazolium, 2-[[4-(dibutylamino)-2-(1-ethylpropoxy)phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAMZ)

CM 1

CRN 894778-23-5 CMF C40 H56 N5 O

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-22-4 CAPLUS
IH-Inidazolium, 2-[[4-(dioctylamino)-2,6-dimethoxyphenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-21-3 CMF C45 H66 N5 O2

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-28-0 CAPLUS
IH-Imidazoltum, 2-[[2-methoxy-4-(phenylpropylamino) phenyl] azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CH 1

CRN 894778-27-9 CMF C37 H42 N5 O

L6 ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-33-7 CAPLUS
1H-Imidazolium, 2-[[4-{diphenylamino}-2-methoxyphenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CRN 894778-32-6 CMF C40 H40 N5 O

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-41-7 CAPLUS
IH-Imidazolium, 2-[(4-(diphenylamino)-2-[(2-ethylhexyl)oxy]phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-40-6 CMF C47 H54 N5 O

L6 ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-37-1 CAPLUS
IH-Imidazolium, 2-[[4-(diphenylamino)-2-(hexyloxy)phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-36-0 CMF C45 H50 N5 O

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

894778-59-7 CAPLUS
1H-Imidazolium, 2-[[2,4-bis(octyloxy)phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9C1) (CA INDEX NAME)

CM 1

CRN 894778-58-6 CMF C43 H61 N4 O2

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS ·

894778-61-1 CAPLUS
IH-Imidazolium, 2-[{2,5-dibutoxy-4-[(4-methylphenyl)thio]phenyl]azo]-1,3-bis(2,4,6-trimethylphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 894778-60-0 CMF C42 H51 N4 02 S

L6 ANSWER 6 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:166129 CAPLUS
DN 144:263646
High-capacity optical storage media
IN Bacher, Jean-Fierrer, Baudin, Gisele, Wendeborn, Frederique, Adam,
Jean-Marie, Lehmann, Urs, Birbaum, Jean-Luc
PA Ciba Specialty Chemicals Holding Inc., Switz.
PC Int. Appl., 120 pp.
CODEM: PIXXD2
P Patent
LA English
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATI DATE

							-									-			
I	WO	2006	0183	52		A1		2006	0223		WO 2	005-	EP53	215		2	0050	706	
		W:	ΑE,	AG,	AL,	AM,	AT,	ΑU,	AZ,	BA,	BB,	BG,	BR.	BW,	BY,	BZ,	CA,	CH,	
			CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES.	FI,	GB,	GD.	
								ID,											
								LU,											
								PG,											
			SL,	SM.	SY,	TJ.	TM.	TN,	TR.	TT.	TZ.	UA.	UG.	US.	UZ.	vc.	VN.	YU.	
				ZM,											,	,	,	,	
		RW:				CH.	CY.	CZ,	DE.	DK.	EE.	ES.	FI.	FR.	GB.	GR.	HU.	IR.	
								MC,											
								GN,											
								NA,											
					MD.				,	,	,	,	,	,	,	,	,	,	
	WO	2006						2006	0810	,	70 2	006-1	RP50	127		2	0060	125	
		W:						AU,											
								DE,											
								ID,											
								LT,											
								NZ,											
								TJ,											
					ZA,			,	****	,	,	,	,	VI,	٠٠,	٠,,	02,	,,	
		₽W•						CZ,	DF	חצי	FF	FC	PI	WD.	CB	CD	mı	12	
		2						MC,											
			CF.	cc'	čī,	CM.	GA,	GN,	60	cu,	MT.	MD,	NP	en,	34,	TC.	br,	CU,	
								NA,											
					MD.				ου,	эь,	34,	14,	vu,	۷٦,	Zw,	۸n,	A4,	ы,	
DAT	WD.	2004			MD,	A,		2004	1016										
		2004				Â		2004											
		2005						2005											
	EF	2003	-100	,20		^		20050	1202										

STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

The invention accordingly relates to an optical recording medium comprises a substrate, a reflecting layer and a recording layer, wherein the recording layer comprises a compound of formula I or a meaomeric or tautomeric form thereof (MI is a metal cation in the oxidation state +3, a hydroxy or halogeon metal group wherein the metal is in the oxidation state +4, or an oxo metal group wherein the metal is in the oxidation state +5,

and IV are each independently of the other V, VI or VII, VIII is IX, X, XI, XII, XIII or XIV, XV is XVI or C2-8 heteroaryl unsubstituted or monopopoly-substituted by R10-13; Q1 = N or CR18; Q2 = N or CR19; Q3, Q5 and Q7 are each independently of the other CR20821,0, S or NR22, Q4 = CR16 or

ANSWER 5 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 16919-18-9 CMF F6 P CCI CCS

ANSWER 6 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
N and Q6 is CR17 or N; and R2 and/or R6 = 0, S or NR33; R1,3-5,7-13,15-19
= H, halogen OR23, SR23, NR22R24, etc.; R14 = C1-12 alkyl, C3-12
cycloalkyl, etc.; R20,21 = C1-12 alkyl, C2-12 alkeyl, etc.; R22 = H, C1-4
alkyl, C2-4 alkenyl, etc.' R24,26,27 = H, C1-6 alkyl, C2-6 alkenyl, etc.;
R33 = COR24, COR26R27, CN, etc.). Please see the disclosure for the other
substituents which are less relevant. The compds. of formula I are novel
and also claimed, as well as the compd. of formula I1, or a meso-mer or
tautomer thereof (R38 = halogen, CF3, NO2, CN, COR22, COOR33, SO3R23, NCO
or SCN; G1, G 2, M1, R1, R2, R4, R5, R6, R9, R22 and R23 are as defined in
formula I M2m+ cation with m pos. charges; and m = integer 1, 2 or 3).
The optical recording media are remarkably suitable for DVDfR (658 nm),
esp. at high recording speeds.
877312-76-0
RL: PRP (Properties); TEM (Technical or engineered material use); USES
(Uses)

(Uses)
(high-capacity optical storage media containing)
877312-76-0 CAPIUS
HI-Inidacolium, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis(imino-2,1-phenyleneazo)]bis[1,3-dimethyl-, bis[bis[4-[(5-nitro-2-thiazolyl-kN3)azo-kN1]-1,3-benzenediolato(2-)-kO3]cobaltate(1-)]
(SC1) (CA INDEX NAME)

CH 1

CRN 838086-26-3 CMF C27 H36 N10

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 776325-16-7 CMF C18 HB Co NB O8 S2 CCI CCS

ANSWER 6 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

877178-56-8P

RE: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of high-capacity optical storage media) 877178-56-8 CAPLUS

ypreparation of high-capacity optical storage media) 877178-56-8 CAPLUS 1H-Imidazolium, 2,2"-[(2,2-dimethyl-1,3-propanediyl)bis(imino-2,1-phenyleneazo)]bis[1,3-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 838086-26-3 CMF C27 H36 N10

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN
2005:1223755 CAPLUS
145:14068
Sulfide hair dyes
Anon.
USA
IP.com Journal (2005), 5(10B), 24 (No. IPCOM000130141D), 13 Oct 2005
CODEN: IJPOEX; ISSN: 1533-0001
IP.com, Inc.
JOURNAL! Patent
English
PATENT NO. KIND DATE APPLICATION NO. DATE
IP 130141D 20051013

PATENT NO. KIND DATE APPLICATION NO. DATE

17 130141D 20051013

SUlfide dyes and dyeing compns. are disclosed. The sulfide dyes are selected from anionic, cationic, neutral, amphoteric and zwitterionic dyes, and are preferably derived from compds, such as anthraquinones, scridines, azomethines, benzodifuranones coumarins, diketopyrroles, diphenylmethanes, indigoids, naphthaquinones, merogranines, oxazines, pyrenequinones, phthalocymnines, phenazines, and thioxanthenes. The dyes which can be used as single components of as mixts. of 2 or more components of the same or different dye classes are useful for the dyeing of organic materials, such as hair fibers, preferably human hair. 366023-649

RE: (OS (Cosmetic use), PEP (Physical, engineering or chemical process), PRP (Properties), PYP (Physical process), RCT (Reactant), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), PROC (Process), RCT (Reactant or reagent), USES (Uses)

(preparation of disulfides for use in hair dyes)

86022-54-3 CAPIUS

Hi-midazolium, 2-[(2-fluoro-5-[(phenylacetyl)amino)phenyl]azo]-1,3-dimethyl-, methyl sulfate (SCI) (CA INDEX NAME)

CH 1

CRN 866023-53-2 CMF C19 H19 F N5 O

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 21228-90-0 CMF C H3 O4 S

L6 ANSWER 6 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

836623-36-0F RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation of high-capacity optical storage media) 836623-36-0 CAPLUS HI-Indiazolium, 2-[(2-fluorophenyl)azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 836623-35-9 CMF C11 H12 F N4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Me=0-503-

DATE

866487-93-6P

866487-33-6P
RI: COS (Cosmetic use); PEP (Physical, engineering or chemical process);
PRP (Properties); PYP (Physical process); SPN (Synthetic preparation);
BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
(preparation of disulfides for use in hair dyes)
866487-93-6 CAPLUS
IH-ImidazOlium, 2,2'-[dithiobis[2,1-ethanediylimino[5-(acetylamino]-2,1-phenylene]azo]]bis[1,3-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 866487-92-5 CMF C30 H40 N12 O2 S2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

IT 866023-29-2P
RL: COS (Cosmetic use), RCT (Reactant), SPN (Synthetic preparation), BIOL (Slological study), PREP (Preparation), RACT (Reactant or reagent), USES (Uses)
(preparation of disulfides for use in hair dyes)
RN 866023-29-2 CAPLUS
CN HI-Indizaclium, 2-[[5-[acetylamino]-2-fluorophenyl]azo]-1,3-dimethyl, methyl sulfate (SCI) (CA INDEX NAME)

CH 1

ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

866487-91-4P 866488-08-6P 866488-09-7P
RL: COS (Cosmetic use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses) (preparation of disulfides for use in hair dyes)
866487-91-4 CAPLUS
HI-Imidazolium, 2,2'-[dithiobis(2,1-ethanediylimino-2,1-phenyleneazo)]bis[1,3-dimethyl-, dichloride (9CI) (CA INDEX NAME) IT

PAGE 1-A

L6 ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 866488-09-7 CAPLUS
CN lH-Imidazolium, 2,2'-[dithiobis[2,1-ethanediyl(dimethyliminio)-2,1-ethanediyliminio|-2,1-ethanediyliminio|-2,1-ethanediyliminio|-2,1-gCl) (CA INDEX NAME)

PAGE 1-A

L6 ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

●2 c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 866489-08-6 CAPLUS
CN IN-Indiaceolium, 2,2'-(dithiobis[2,1-ethanediyl(dimethyliminio)-2,1-ethanediylimino-2,1-phenylenearo]]bis[1,3-dimethyl- (9CI) (CA INDEX NAME)

ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

1T 836623-36-0P 866023-57-6P
RL: RCT (Reactant); SPM (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of disulfides for use in hair dyes)
RN 836623-36-0 CAPLUS
RN 18-indazolium, 2-1(2-fluorophenyl)azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CH 1

CRN 836623-35-9 CMF C11 H12 F N4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

2

CRN 21228-90-0 CMF C H3 04 S

866023-57-6 CAPLUS
1H-Imidazolium, 2-{[2-fluoro-5-[(1-oxopropyl)amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CRN 866023-56-5 CMF C14 H17 F N5 O

ANSWER 7 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 04 S

Me-0-503-

ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

●2 C1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 866487-93-6 CAPLUS
TH-Imidazolium, 2,2'-[dithiobis(2,1-ethanediylimino[5-(acetylamino)-2,1-phenylene]azo]]bis[1,3-dimethyl-, bis(methyl-sulfate) (9CI) (CA INDEX NAME)

CRN 866487-92-5 CMF C30 H40 N12 O2 S2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2005:1090140 CAPLUS 143:372829 Sulfide and disulfide dyes for use in dyeing Keratin-containing fibers Eliu, Victor Pauli Froehling, Beater Kauffmann, Dominique Ciba Specialty Chemicals Holding Inc., Switz.

Brit. UK Pat. Appl., 110 pp.

CODEN: BAXXDU DT Patent
LA English
FAN.CNT 1
PATENT NO. PAN. CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

PI GB 2412916 A 20051012 GB 2005-6757 2005046

WO 2005097051 A3 20051020 WO 2005-EF51412 2005032

WI AE, AG, AL, MA, AT, AU, AZ, BA, BG, BG, BR, EW, BY, BZ, CA, CC, CC, CC, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, CG, GB, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, IL, KLK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MM, MW, KM, ZN, NA, NO, NZ, CM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SS, TJ, TJ, TT, TZ, LQ, UG, US, UZ, VC, VM, VU, ZA, ZB, WI: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, PAZ, BY, KG, KZ, PR, RR, KZ, IT, RR, EB, BC, CH, CY, CZ, DE, EE, ES, FI, FR, GB, GR, HU, LE, IS, IT, LT, LU, MC, NL, PL, ER, CO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, PM, NE, SN, TD, TG

PRAI EP 2004-101455 A 20040408

EP 2004-101655 A 20040123

SB MARPAT 143:373229

AB A method of dyeing keratin-containing fibers (such as wool and hair) comprises treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide dye (Markus treating the fiber with at least one sulfide or disulfide or disulfide or disulfide or disulfide or disulfide or disu 20050404 20050329 comprises

treating the fiber with at least one sulfide or disulfide dye (Markush structures given). 2,2'-Dithiobis(2-ethylaminophenylazo-1,3-dimethylimidazolium)difluoride (1) dye was prepared by the reaction of 2-(p-fluorophenylazo)-1,3-dimethylimidazolium chloride derivative (preparation given) with cysteamine dihydrochloride. A solution of 0.1% I was applied on the hair for 20 min at room temperature, then rinsed and dried to obtain a red color.
866487-91-4P 866487-93-6P 866487-95-8P
866487-97-0P 866488-08-6P 866488-09-7P
RL: COS (Cosmetic use), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses)
(sulfide and disulfide dyes for use in dyeing keratin-containing fibers)
866487-91-4 CAPLUS
HI-Imidazollum, 2,2°-(dithiobis(2,1-ethanediylimino-2,1-phenyleneszo)]bis[1,3-dimethyl-, dichloride (9CI) (CA INDEX NAME)

ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CM 2

21228-90-0 C H3 O4 S

Me-0-503-

866487-95-8 CAPLUS
1H-Indidazolium, 2,2'-[dithiobis[2,1-ethanediylimino[5-[(1-oxopropy1)amino]-2,1-phenylene]azo]]bis[1,3-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CМ 1

866487-94-7 C32 H44 N12 O2 S2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

866487-97-0 CAPLUS
1H-Imidazolium, 2,2'-[dithiobis[2,1-ethanediylimino[5-(benzoylamino)-2,1-phenylene]azo]]bis[1,3-dimethyl-, bis[methyl sulfate) [9CI] (CA INDEX NAME)

CH 1

CRN 866487-96-9 CMF C40 H44 N12 02 S2

ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 04 S

He-0-503-

866488-08-6 CAPLUS
1H-Imidezolium, 2,2'-[dithiobis[2,1-ethanediyl(dimethyliminio)-2,1-ethanediylimino-2,1-phenyleneazo]]bis[1,3-dimethyl- (9CI) (CA INDEX NAME)

ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) PAGE 1-A

PAGE 1-B

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

1T 836623-36-0P 866023-29-2P 866023-54-3P
866023-57-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)
sulfide and dispulfide dyes for use in dyeing keratin-containing fibers)
RN 836623-36-0 CAPLUS
CN IN-Indiazolium, 2-5[(2-fluorophenyl)azo]-1,3-dimethyl-, methyl sulfate
(9CI) (CA INDEX NAME)

CH 1

CRN 836623-35-9 CMF C11 H12 F N4

L6 ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-B

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 866488-09-7 CAPLUS
CN IN-Inidazolium, 2,2'-[dithiobis[2,1-ethanediyl (dimethyliminio)-2,1ethanediyliminio|-4-[(1-oxopropyl)amino]-2,1-phenylene]azo]]bis[1,3-dimethyl(9CI) (CA INDEX NAME)

L6 ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN (CONTINUED) ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

866023-29-2 CAPLUS
1H-Imidazolium, 2-[[5-(acetylamino)-2-fluorophenyl]azo]-1,3-dimethyl-,
methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 866023-28-1 CMF C13 H15 F N5 O

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

Me-0-503-

866023-54-3 CAPLUS
1H-Imidazolium, 2-[[2-fluoro-5-[(phenylacetyl)amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CRN 866023-53-2 CMF C19 H19 F N5 O

L6 ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

```
Ph-CH<sub>2</sub>-C-NH
```

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

RN 866023-57-6 CAPLUS
CN IH-Imidazolium, 2-[[2-fluoro-5-[(1-oxopropyl)amino]phenyl]azo]-1,3dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CH 1

CRN 866023-56-5 CMF C14 H17 F N5 0

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

CRN 866023-26-9 CMF C14 H19 N6 O

...

Me-0-503-

```
L6 ANSWER 8 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN (Continued)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

5 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

RN 866023-32-7 CAPLUS
CN IH-Imidazolium, 2-[[5-(acetylemino)-2-[[3-(1-methylethoxy)propyl]amino]phenyllacoj-1,3-dimethyl-, fluoride (9CI) (CA INDEX NAME)

● F-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 866023-33-8 CAPLUS
CN HH-Indiazolium, 2-[[5-(acetylamino)-2-[[2-(dimethylamino)ethyl]emino]pheny
1]azo]-1,3-dimethyl-, fluoride (9CI) (CA INDEX NAME)

L6 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 866023-34-9 CAPLUS CN H-Imidazolium, 2-[[5-(acetylamino)-2-[(3-amino-2,2-dimethylpropyl)amino]phenyl]azo]-1,3-dimethyl-, fluoride (9CI) (CA INDEX

• F-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 866023-35-0 CAPLUS
CN IN-Imidazolium, 2,2'-[(2,2-dimethyl-1,3-propanediyl)bis[imino[5(acetylamino)-2,1-phenylene]azo]bis[1,3-dimethyl-, difluoride (9CI) (CA
INDEX NAME)

●2 F-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 866023-36-1 CAPLUS
CN HF-Imidazolium, 2,2'-(1,6-hexanediylbis[imino[5-(acetylamino)-2,1-phenylene]azo]]bis[1,3-dimethyl-, difluoride (9CI) (CA INDEX NAME)

ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

866023-42-9 CAPLUS
1H-Imidazolium, 2-[[5-(acetylamino)-2-(octylamino)phenyl]azo]-1,3-dimethyl, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 866023-41-8 CMF C21 H33 N6 O

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

866023-44-1 CAPLUS
1H-Imidazolium, 2-[[5-{acetylamino}-2-[(1-methylethyl)amino]phenyl]azo]1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CRN 21228-90-0

ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 866023-38-3 CAPIUS (CA IH-Imidazolium, 2-[[5-(acetylamino)-2-[[3-(dimethylamino)-2,2-dimethylpropyl]amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 866023-37-2 CMF C20 H32 N7 O

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 04 S

ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN CHF C H3 O4 S (Continued)

Me-0-503-

866023-46-3 CAPLUS
1H-Imidazolium, 2-[[5-(acetylamino)-2-[(2-aminoethyl)amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 866023-45-2 CMF C15 H22 N7 O

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 21228-90-0 CMF C H3 O4 5

Me-0-503-

866023-48-5 CAPLUS
1H-Imidazolium, 2-[[5-(acetylamino)-2-[(2-hydroxyethyl)amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 866023-47-4 CMF C15 H21 N6 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

L6 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Me-0-503-

866023-50-9 CAPLUS
1H-ImidazOlium, 2,2'-[1,6-hexanediylbis[imino[5-[(1-oxopropyl)amino]-2,1-phenylene]azo]]bis[1,3-dimethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

CRN 866023-49-6 CMF C34 H48 N12 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

866023-52-1 CAPLUS
1H-Imidazolium, 2,2'-[1,6-hexanediylbis[imino[5-(benzoylamino)-2,1-phenylene]azo]]bis[1,3-dimethyl-, bis[methyl sulfate] (9CI) (CA INDEX NAME)

CM 1

CRN 866023-51-0

L6 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

Me-0-503-

866023-54-3 CAPLUS
1H-Imidazolium, 2-[[2-fluoro-5-[(phenylacetyl)amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CRN 866023-53-2 CMF C19 H19 F N5 O

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CP4 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

866023-57-6 CAPLUS
IN-Imidazolium, 2-{{2-fluoro-5-{(1-oxopropyl)amino]phenyl}azo}-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CRN 866023-56-5 CMF C14 H17 F N5 O

L6 ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN CMF C42 H49 N12 O2 (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 04 S

Me-0-503-

866023-29-2P 866023-54-3P 866023-57-6P RL: RCT (Reactant): SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) ((aminoacylaminophenyl) azoimidazolium salts for hair dyes) 866023-29-2 CAPLUS HH-Imidazolium, 2-[[5-[acetylamino]-2-fluorophenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 866023-28-1 CMF C13 H15 F N5 O

ANSWER 9 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

RE. CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 10 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2005:564646 CAPLUS 143:83171
             143:931/1
Hair dyeing with capped diazotized compounds and coupling components
Eliu, Victor Paul, Froehling, Beater Kauffmann, Dominique
Ciba Specialty Chemicals Holding Inc., Switz.
PCT Int. Appl., 79 pp.
COUEN: PIXXD2
             Patent
 LA English
FAN.CNT 1
PATENT NO.
                                                              KIND
                                                                             DATE
                                                                                                             APPLICATION NO.
                                                                                                                                                                    DATE
                                                                A2
A3
             WO 2005058840
WO 2005058840
                                                                               20050630
WO 2004-EP53335
  ΡĪ
                                                                                                                                                                    20041208
             a radical of an unsubstituted or substituted, aliphatic or aromatic amine, and optionally a coupling component. Further, the present invention relates to novel compds. and compns. thereof. Thus, a dye emulsion contained 0.01, cetearyl alc. 3.5, Ceteareth-80 1.0, glyceryl mono/disterate 0.5, stearamide DEA 3.0, stearamphopropyl sulfonate 1.0, Polyquaternium-6 0.5, and water qs to 100%.
 11
             836623-18-8
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
    (hair dyeing with capped disactized compds. and coupling components)
836623-18-8 CAPLUS
HI-Inidazolium, 2, 2'-[1,6-hexanediylbis(imino-2,1-phenyleneszo)]bis[1,3-dimethyl-, difluoride (9CI) (CA INDEX NAME)
```

ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN APPLICANT 2005:116243 CAPLUS 142:204147 1,3-Disubstituted 2-(phenylazo)imidazolium cationic direct dyes and 2-(2-fluorophenylazo)imidazole for hair dyes Eliu, Victor Paul; Froehling, Beate Ciba Specialty Chemicals Holding Inc., Switz. Brit. UK Paul. Papl., 126 pp. CODEN: BAXXDU IN PA SO Patent English CNT 1 PATENT NO. DATE APPLICATION NO. KIND DATE 20050209 GB 2004-16150
20050210 W0 2004-2P51461
AU, AZ, BA, BB, BG, BR, BW,
DE, DK, DM, DZ, EC, EE, EG,
ID, IL, IN, IS, JP, KE, KG,
IV, HA, MD, MG, MK, MN, MY,
PL, PT, RO, RU, SC, SD, SE,
TZ, UA, UG, US, UZ, VC, VN,
MW, HZ, NA, SD, SL, SZ, TZ,
RU, TJ, TH, AT, BE, BG, CH,
GR, HU, IE, IT, LU, MC, NL,
CF, CG, CI, CM, GA, GN, GQ, GB 2404661 WO 2005012437 20040720 VO 2005012437

VO 2005012437

VO: AE, AG, AL,
CN. CO, CR,
GE, GH, GM,
LK, LR, LS,
NO, N2, OM,
TJ, TM, TN,
TW, EW, GH, GM,
AZ, BY, KG,
EE, ES, FI,
SI, SK, TR,
SN, TD, TG
EP 1648967
R: AT, BE, CH,
IE, SI, FI,
CN 1826386
BR 2004012825
JP 2006528709
US 2006179586
PRAIE P2 2033-102286
WO 2004-PE51481 A1 AM, AT, CU, CZ, HR, HU, LT, LU, PG, PH, TR, TT, KE, LS, KZ, MD, FR, GB, BF, BJ, 20040714 BZ, CA, CH, FI, GB, GD, KR, KZ, LC, MZ, NA, NI, SK, SL, SY, ZA, ZM, ZW, AM, CZ, DE, DK, PT, RO, SE, ML, MR, NE, ES, KP, MX, SG, YU, UG, CY, PL, GW, Al 20060426 EP 2004-766211
DE, DK, ES, FR, GB, GR, IT, LI, LU, RO, CY, TR, BG, CZ, EE, HU, FL, SK
A 20060930 RN 2004-12825
T 20061221 JP 2006-520827
Al 20060917 US 2006-565137
A 20030724
W 20040714
JN ARPART 142: 204147 20040714 20040714 20040714 20060119 US 20061/3000 EP 2003-102286 A 20030724 WO 2004-EP51481 W 20040714 CASREACT 142:204147, MARPAT 142:204147

Me -- 0503

Cationic 1,3-disubstituted 2-(phenylazo)imidazolium cationic direct dyes and 2-(2-fluorophenylazo)imidazole dyes are presented for hair dye compressioned the present invention relates to compness thereof, especially

other dyes, to processes for the preparation thereof and to the use thereof

ANSWER 10 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

СМ 2 CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

(CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

```
Answer 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) the dyeing of org. material, such as keratin, wool, leather, silk, paper, cellulose or polyamides, esp. keratin-contg, fibers, cotton or nylon, and preferably human hair. Such compns. may comprise in addn. (a) at least a single further direct dye and/or an oxidative agent, (b) at least a single oxidative dye or (c) at least a single oxidative agent and an oxidative agent. Dye I was prepd. and soln. contg. I and Plantaren 2000 surfactant tested on human hair.

836623-12-2P 836623-13-3P 836623-14-4P
836623-15-P 836623-16-6P 836623-17-7P
836623-18-8P 836623-20-2P 836623-22-0P
836623-30-4P 836623-22-6P 836623-22-0P
836623-30-4P 836623-32-6P 836623-34-8P
RL: COS (Cosmatic use), SPN (Synthetic preparation), BIOL (Biological study), PREP (Preparation), USES (Uses)
1(1,3-disubstituted 2-(phenylazo)imidazolium cationic direct dyes and 2-(2-fluorophenylazo)imidazole for hair dyes)
1H-laidscular, 2-1(2-aminophenyl)azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)
                                   CM
                                                                    836623-11-1
C11 H14 N5
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
```

836623-13-3 CAPLUS 1H-Imidazolium, 1,3-dimethyl-2-[[2-(methylaminb)phenyl]azo]-, fluoride

ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 836623-14-4 CAPLUS CN IH-Indiazolium, 1,3-dimethyl-2-[[2-[[3-(1-methylethoxy)propyl]amino]phenyl]azo]-, fluoride {9Cl} (CA INDEX NAME)

● p-

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 836623-15-5 CAPIUS CN IN-Indeacolium, 2-{[2-[[2-(dimethylamino)ethyl]amino]phenyl]azo]-1,3-dimethyl-, fluoride (SCI) (CA INDEX NAME)

ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN dimethyl-, difluoride (9CI) (CA INDEX NAME) (Continued)

●2 F-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 836623-20-2 CAPLUS
CN Ht-Imidazolium, 2-[[2-[[3-(dimethylamino)-2,2-dimethylpropyl]amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CH 1

CRN 836623-19-9 CMF C18 H29 N6

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

L6 ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

Sid623-16-6 CAPLUS

1H-Inidazollum, 2-[[2-q](3-amino-2,2-dimethylpropyl)amino]phenyl]azo]-1,3-dimethyl-fluoride (9CI) (CA INDEX NAME)

• F

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 936623-17-7 CAPUUS
CN HR-Indiazolium, 2,2'-([2,2-dimethyl-1,3-propanediyl)bis(imino-2,1-phenyleneazo)]bis(1,3-dimethyl-1, difluoride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 836623-18-8 CAPLUS (C. 1H-Imidazolium, 2,2'-[1,6-hexanediylbis(imino-2,1-phenyleneazo)]bis[1,3-

L6 ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Me-0-503-

836623-22-4 CAPLUS
IH-Inidazolium, 2-([2-([1,1-dimethylethyl)smino]phenyl]szo]-1,3-dimethyl-,methyl sulfate (9C1) (CA INDEX NAME)

CM 1

CRN 836623-21-3 CMF C15 H22 N5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

836623-24-6 CAPLUS
IH-Imidazolium, 2-[[2-(dodecylamino)phenyl]azo]-1,3-dimethyl-, methyl
sulfate (SCI) (CA INDEX NAME)

CM 1

CRN 836623-23-5 CMF C23 H38 N5

Me- (CH2) 11-NH

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0

ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN CMF C H3 04 S (Continued)

836623-26-8 CAPLUS
1H-Imidazolium, 1,3-dimethyl-2-[[2-[(1-methylethyl)amino]phenyl]azo]-,
methyl sulfate (9CI) (CA INDEX NAME)

CRN 836623-25-7 CMF C14 H20 N5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

836623-28-0 CAPLUS
1H-Imidazolium, 1,3-dimethyl-2-[[2-(octylamino)phenyl]azo]-, methyl
sulfate (9CI) (CA INDEX NAME)

CH 1

CRN 836623-27-9 CMF C19 H30 N5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

L6 ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

836623-34-8 CAPLUS
1H-Imidazolium, 2-[[2-(cyclohexylamino)phenyl]azo]-1,3-dimethyl-, methyl
sulfate (9C1) (CA INDEX NAME)

CRN 836623-33-7 CMF C17 H24 N5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

Me-0-503-

#336623-36-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(1,3-disubstituted 2-(phenylazo)imidazolium cationic direct dyes and 2-(2-fluorophenylazo)imidazole for hair dyes)

L6 ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

836623-30-4 CAPLUS
IH-Imidazolium, 2-[[2-[(2-aminoethyl)amino]phenyl]azo]-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 836623-29-1 CMF C13 H19 N6

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

836623-32-6 CAPLUS
1H-Imidazolium, 2-[[2-{(2-hydroxyethyl)amino]phenyl}azo]-1,3-dimethyl-,
methyl sulfate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 836623-31-5 CMF C13 H18 N5 O

ANSWER 11 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) 836623-36-0 CAPLUS | H-Imidazolium, 2-{(2-fluorophenyl)azo}-1,3-dimethyl-, methyl sulfate (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT RE.CNT 8

```
ANSWER 12 OF 46 CAPLUS COPYRIGHT 2007 ACS On STN 2004:549442 CAPLUS
 AN
DN
TI
               141:93976
             141:33976
Oxidative hair dyes composed of primary amino group-containing chromophores and reactive carbonyl compounds
Moeller, Hinrich Hoeffkes, Horst; Oberkobusch, Doris
Henkel Kgaa, Germany
Ger. Offen. 39 pp.
CODEN: GWXMEX
 DT
              Patent
              German
 LA Ge
FAN.CNT
                                                                               DATE
              PATENT NO.
                                                                KIND
                                                                                                                 APPLICATION NO.
                                                                                                                                                                             DATE
                                                                                                                 DE 2002-10260881
WO 2003-EP13812
             DE 10260881
WO 2004058200
                                                                               20040708
                                                                   A1
A1
                                                                                                                                                                             20021223
 PΙ
20031206
            DE 2002-10260881 A ZUVLIZZ-

WO 2003-EP13812 W 20031206

MARPAT 141:93976
The invention concerns oxidative hair dyes that are composed of (A)

primary maino group-containing chromophores that adsorb at 350-750 nm; (B)

reactive carbonyl compds.; (C) optionally CH-acidic group-containing
            ds., primary and secondary amines, hydroxyl compds. Direct dyes, color enhancers and surfactants can be added. Thus in a hair dyeing experiment 5 mmol 4-amino-4'-dimethylaminostilbene and 5 mmol glutacon aldehyde sodium salt were mixed with 5 mmol sodium acetate, one drop of 25% fatty alkyl sulfate solution and 50 mL water; pH was set to 6; a rusty red color was observed.
              obtained.
161329-44-8
             161329-44-8
RI: COS (Cosmetic use); BIOL (Biological study); USES (Uses)
(oxidative hair dyes composed of primary amino group-containing
chromophores and reactive carbonyl compds.)
161329-44-8 CAPLUS
HH-Imidazolium, 2-[(4-smino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-,
chloride (SCI) (CA INDEX NAME)
```

Me NH2

• c1-

```
L6 ANSWER 13 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:482160 CAPLUS
DN 141:42533
TI Hair dyeing compositions comprising a cationic tertiary p-phenylenediamine with a pyrrolidine ring and a cationic heterocyclic direct dye
IN COCTETE, Jean Lagrange, Alain
PATENT NO.

SUR. Pat. Appl., 104 pp.
COEDEN: EPXXDW

DT Patent
LA French
FAN.CNI 1
PATENT NO.

KIND DATE APPLICATION NO.

PI EP 1428505 A1 20040616 EP 2003-293130 20031212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, FT,
IE, SI, LT, LV, FI, RO, MK, CV, AL, TR, EG, CZ, EE, HU, SX
FR 2848439 A1 20040618 FR 2002-15772 20021213
US 2004221399 A1 2004011 US 2003-735259 20031212
US 7101406 B2 20060901 US 2006-334169 20060117
PPAL FR 2002-15772 A 20021213
US 2003-444641P P 20032024
US 2003-444641P P 20032024
US 2003-444641P P 20031202
US 2003-444641P A 20031212
US 2003-444641P A 20031210
Composition
Contained oleic acid 9, polyglyceryl oleyl ether 12, diethylaminopropyl laurylaminosuccinamate sodium salt 3, ethoxylated oleylamine 7, ethoxylated alkyl ether monoethanolamide 10, ammonium acetate 20, propylene glycol 20, dilinolici caid 15, reducing agents 0, 915, sequestrants 1, resorcinol 0.085, [1-(4-aminophenyl))pyrrolidin-3-ylltrimethylamnonium chloride 1.0, 2-methyl-5-aminophenol 0.5, niacinamide 0.2, perfume qa, ammonia 10.2, and water qs to 100 g. The above composition (50 g) was mixed with oxygenated water and 0.2 g Basic Red-51.

R1 478240-11-8
R2 CCC (Cosmetic use), BIOL (Biological study), USES (Uses)
(hair dyeing compns. comprising cationic tertiary phenylenediamine with pyrrolidine ring and actionic heterocyclic direct dye)

NA 478240-11-8 CAPLUS

NA HILMINGARDAME)
```

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 12 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN (Continued)
ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

```
ANSWER 14 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2002:964159 CAPLUS 138:28936
         L6
AN
DN
TI
                                        Dyeing composition for keratinous fibers comprising a particular
                                        dicationic diazo dye
                                  Coden Price of the Coden Coden
         PA
SO
      DT Pat
LA Fre
FAN.CNT
                                       INT 1
PATENT NO.
                                                                                                                                                                    KIND
                                                                                                                                                                                                           DATE
                                                                                                                                                                                                                                                                                           APPLICATION NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                           DATE
                                                                                                                                                                                                               20021219
                                                                                                                                                                                                                                                                                          WO 2002-FR1990
                                     WO 2002100368
                                                            2022103588 A1 20221219 W2 2002-FR1990 2002-SR1901 W: AE, AG, AL, AM, AT, AM, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, CM, HR, HU, ID, IL, IN, IS, JF, KE, KG, KF, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, HD, HG, HK, HM, HW, KK, HZ, NO, NZ, OM, FI, CM, FI, FT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TH, TN, TR, TT, TZ, UA, UG, US, UZ, VN, VU, ZA, ZH, ZW
RW: GH, OH, KE, LS, MW, HZ, SD, SL, SZ, TZ, UG, ZH, ZY, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CH, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG 2025702 A1 20021031 FR 2001-7614 20010611 20251099117 A1 20040324 EP 2002-60357 20020611
                                                                                                                                                                         A1
                                                                                                                                                                                                                                                                                                                                                                                                                                           20020611
                                     FR 2825702
FR 2825702
EP 1399117
EP 1399117
                                                                                                                                                                                                             20040324
                                                                                                                                                                                                                                                                                      EP 2002-760357
                                                                                                                                                                                                                                                                                                                                                                                                                                           20020611
                                                                                                                                                                                                             20061102
                                   B1
AT 344090 T 20061115 AT 2002-760357 20020611
US 2004143911 A1 200610729 US 2004-480153 20020611
US 6893471 B2 20050517
PRAI FR 2001-7614 A 20010611
W0 2002-FR1990 W 20020611
OS MARPAT 138:28936
AB The invention concerns a dyeing composition for dyeing keratinous fibers, in particular human keratinous fibers and more particularly hair, comprising a dicationic diazo dye as well as the dyeing method using same.
I 478240-11-8 478240-12-9 478240-13-0
RL: COS (Cosmetic use): BIOL (Biological study): USES (Uses)
(dyeing composition for keratinous fibers comprising particular dicationic diazo dye)
                                   diazo dye)
478240-11-8 CAPLUS
1H-Imidazolium, 2,2'-[(2-methoxy-1,4-phenylene)bis(azo)]bis[1,3-dimethyl-(9CI) (CA INDEX NAME)
```

ANSWER 14 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 478240-12-9 CAPEUS IN-1,2,4-Triazolium, 3-[[4-[(1,3-dimethyl-1H-imidazolium-2-y1)azo]-3-methoxyphenyl]azo]-1,4-dimethyl- (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 478240-13-0 CAPLUS CN Pyridinium, 2-{14-{1,3-dimethyl-1H-imidazolium-2-yl)azo}-3-methoxyphenyl}azo]-1-methyl- (9CI) (CA INDEX NAME)

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 15 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-6 CAPLUS CN IN-Indidazolium, 2-[(4-mino-2,5-dimethoxyphenyl)ezo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CHT 11 HERRE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 15 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
2001:796234 CAPLUS
135:348711
Oxidative hair dye compositions comprising 1-(4-aminophenyl)-pyrrolidine
derivatives and a particular direct dye
Kravtchenko, Sylvain, Lagrange, Alain
L'Oreal, Fr.
Eur. Pat. Appl., 100 pp.
CODEN: EPXXDW
Patent DN TI PA SO DT Patent LA French FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE PATENT NO. KIND DATE APPLICATION NO. DATE

PI EP 1149575 A1 20011031 EP 2001-400879 2001005

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, EL, SI, LT, LV, FI, RO

FR 2807650 A1 20011019 FR 2000-4991 20000418

FR 2807650 B1 20020524

US 20030384616 A9 20011204 JP 2001-120414 20010418

US 2002095732 A1 20020725 US 2001-836600 20010418

US 2003084516 A9 20030508

FRAI FR 2000-4991 A 20000418

OXIGATION AND APPLICATION OF A COMPANY AND A COMPA applied on the hair for 30 min, the hair is then rinsed, washed with a shampoo, rinsed, and dried.
73447-48-0 161329-44-8
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)
73447-48-0 CAPUS
HH-Indazolium, 2-((4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1:

ANSWER 16 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2000:529432 CAPLUS 133:155126
Cationic dye compositions for keratin dyeing, and method and kit therefor Rondeau, Christine L'oreal S. A., Fr. Jpn. Kokai Tokkyo Koho, 52 pp. CODEN: JXXXAF DT Patent LA Japanese FAN.CNT 1 APPLICATION NO. DATE ΡI JP 2000-11040 20000119 19990119 EP 1999-403290 19991227 GR; IT, LI, LU, NL, SE, MC, PT, EP 1999-403290 AU 726530 B2 20001109 AU 2000-10129 20000106
CN 1265307 A 20000906 CN 2000-10132 20000118
KR 2000057768 A 20000925 KR 2000-2237 20000118
HU 200000160 A2 20010228 HU 2000-160 20000118
BR 2000000140 A 20010502 BR 2000-740 20000118
RU 2200537 C2 20030320 RU 2000-101579 20000118
ZA 200000213 A 20000719 ZA 2000-213 20000119
US 6432146 B1 20020813 US 200-487665 20000119
PRAI FR 1999-501 A 19990119
OS MARPAT 133:155126
AB The invention relates to a cationic dye composition for use for dyeing keratin
fiber, especially hair provides last last last and the composition for use for dyeing fiber, especially hair, providing long-lasting dyeing property, wherein the composition contains an arianor dye and addnl. specified cationic dye material:

A hair dye composition containing Arianor madder red 0.1 and

1,3-dimethyl-2-[[4
(methylamino)phenyl]azo]-1H-Imidazolium chloride 0.1, hydroxyethyl
celulose 1, ethanol 10, 2-amino-2-methyl-1-propanol q.s. to pH 9, and
water q.s. to 100 % was prepared

1 73287-60-2 73447-48-0 [61329-44-8

RL: BUU [Rological use, unclassified), BIOL (Biological study), USES
(Uses)

(Keratin dye compns. containing arianor dyes and addnl. cationic dye
materials)

RN 73287-60-2 CAPLUS

CN 1H-Inidazolium, 2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3dimethyl-, chloride (9CI) (CA INDEX NAME)

(Continued)

ANSWER 16 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 73447-48-0 CAPIUS CN IN-Indiazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPIUS CN IH-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 17 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2000:314347 CAPLUS 132:339027 Hair dye compositions containing a cationic and an oxidative dye based on pyrazolo-(1,5-a)pyrimidines Audousset, Marie-Pascale L'Oreal, Fr. Eur. Pat. Appl., 96 pp. CODEN: EYXXUW

IN PA SO

DT LA Patent French

FAN.	CNT	1																
	PA:	ENT	NO.			KIN	D	DATE		AP	PL:	CAT	ION	NO.		DA	TE	
							-											
PI.	EP	9989	08			A2		2000	0510	EP	19	999-	4025	49		19	991	15
	EP	9989	98			A3		2000	0607									
		R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB, G	R,	IT,	LI,	LU,	NL,	SE,	MC,	PT,
			IE,	SI,	LT,	LV,	FI,	RO										
	FR	2785	183			A1		2000	0505	FR	19	998-	1386	6		19	981	104
	FR	2785	183			B1		2002	0405									
	AU	9956	006			Α		2000	0525	AU	19	999-	5600	6		19	991	21
	ΑU	7304	55			B2		2001	0308									
	ΜX	9910	062			A		2000	0930	MX	19	999-	1006	2		19	991	101
	CN	1252	988			A		2000	0517	CN	15	999-	1236	68		19	991	103
	KR	2000	0352	01		Α		2000	0626	KR	19	999-	1833	7		19	991	103
	HU	9904	016			A2		2000	0828	HU	19	999-	1016			19	991	103
	RU	2185	811			C2		2002	0727	RU	19	999-	1235	28		19	991	103
	JΡ	2000	1781	47		A		2000	0627	JP	19	999-	3140	15		19	991	104
	BR	9907	313			A		2000	1219	BR	19	999-	7313			19	991	104
PRAI	FR	1998	-138	66		A		1998	1104									

IRM 990/313 A 20001219 BR 1999-7313 19991104
IRR 1998-13866 A 19981104
MARRAT 132:339027
Hair dye compns. contain a cationic and an oxidative dye based on pyrazolo-(1,5-a) pyrimidines. Thus, a composition contained pyrazolo-(1,5-a) pyrimidines. Troismine-2HCl 0.333, imidazolium salt 1, EtcH 18, pentasodium diethylenetriaminopentascetate 1.1, 20% NH3 10.0, and water 100 g.
73287-60-2 73447-48-0 161329-44-8
267407-69-2
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(hair compns. containing cationic and oxidative dyes based on pyrazolopyrimidines)
73287-60-2 CAPLUS
IH-Imidazolium, 2-[(4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

L6 ANSWER 17 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
NY 73447-48-0 CAPLUS
CN | H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride
(SCI) (CA INDEX NAME)

L6 ANSWER 16 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

$$\bigwedge_{N}^{\text{Me}} N = N \longrightarrow_{C1}^{NH_2}$$

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPEUS CN IH-Indiacolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 267407-69-2 CAPRUS
CN HR-Indiagaolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3,4,5-tetramethyl-, chloride (9CI) (CA INDEX NAME)

9 Z, S, K,

4

L6 ANSWER 17 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSVER 18 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) contained 2-(p-dimethylaminophenylazo)-1,3-dimethylimidazolium chloride 0.10, 2-(p-aminophenylazo)-1,3-dimethylimidazolium chloride 0.1, ethoxylated nonylphenol 8.0, Q 2-8220 (amino-contg. polydimethylailoxane) 1.2, ethanol 10, 2-amino-2-methyl-i-propanol q.s. pH = 9, and water q.s. 100 t. The compn. is applied on the hair for 30 min, then it is rinsed, washed with a shampoo, and dried to obtain a strong orange-red color. 73447-48-0 161329-44-8
RL: BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses)

(Uses) (Hair dye composition containing direct cationic dyes and silicone) 73447-48-0 CAPLUS

IH-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN IN-Indidacolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

€ C1 **

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 26 HERRE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 18 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2000:161104 CAPLUS 132:198855 L6 AN DN TI IN PA SO 132:198855
Hair dye composition containing direct cationic dyes and a silicone Rondeau, Christine: Lang, Gerard: Cotteret, Jean L'oreal, Fr.
PCT Int. Appl., 121 pp.
CODEN: PIXXD2 DT Patent
LA French
FAN.CHT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2000012057 A1 20000309 WO 1999-FR1876 19990729
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CM, CU, CZ,
DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, DI, IL, IN, 15,
JF, KE, KG, KP, KR, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MP, MG, MK,
MN, MW, MX, NO, NZ, FL, PT, RO, RW, SD, SE, SG, SI, SK, SL, JJ,
TM, TR, TT, UA, CU, SL, UZ, VM, YU, ZA, ZW

RW: GH, GM, KE, LS, HW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
CC, CH, CH, GA, GW, ML, MR, NE, SN, TD, TG
FR 2783416 B1 20002302 FR 1998-10724 19980826
FR 2783416 B1 20002303
CA 2309302 A1 20000309 CA 1999-2309302 19990729
AU 9950462 A1 20000321 AU 1999-50462 19990729
AU 728730 B2 20010118
BR 9906738 A 20000815 BR 1999-6738 19990729
EP 1049447 B1 200505601
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
IE, FI
HU 200004429 A2 20010428 HU 2000-4429 19990729
JP 2002523441 T 20000309 DF 1999-934810 19990729
AU 7287609 T 20050615 AT 1999-934810 19990729
AT 296609 T 20050615 AT 1999-934810 19990729
AT 296609 T 20050615 AT 1999-934810 19990729
DE 29924813 U1 20051117 DE 1999-29924813 19990729
DE 29924813 U1 20051117 DE 1999-29924813 19990729
DE 29924813 U1 20051117 DE 1999-29924813 19990729
DE 29924825 U1 20051117 DE 1999-29924815 19990729
DE 29924825 U1 20051117 DE 1999-29924815 19990729
DE 29924825 U1 20051124 DE 1999-29924815 19990729
U5 2000-550178 A3 19990729
W0 1999-FRI876 W 19990729
W0 1999-FRI876 W 19990729
W0 1999-FRI876 W 19990729
W0 1999-FRI876 W 19990729
W0 1999-FRI8 DŤ Patent French LA Frenchant TAN. CNT 1
PATENT NO. rs

such as hair, comprises in an appropriate dyeing medium, at least a direct
cationic dye of specific formula, and characterized in that it further
contains at least a silicone selected among amine-containing silicones,
polyalkylene silicones, silicone gumms and resins. A hair dye preparation

L6	ANSWER	19 O	F 46	CA	PLUS	cc	PYRI	GHT	2007	AC	S on	STN					
AN	2000:14																
DN	132:185	244															
TI	Hair dy	e co	mpos	itio	n co	ntai	ning	dir	ect	cat	ionic	dve	s an	d no	n-io	nic	
	surfact						•					•					
IN	Lang, G	erar	d; C	otte	ret,	Jea	n										
PA	L'Oreal	, Fr															
so	PCT Int	. Ap	pl.,	115	pp.												
	CODEN:	PIXX	D2														
DT	Patent																
LA	French																
FAN.	CNT 1																
	PATENT				KIN						LICAT						
PΙ	WO 2000				A1		2000				1999-					9990	
	W:	AE,	AL,	AM,	AI,	AU,	AZ,	DA,	BB,	BG	, BR,	BY,	CA,	CH,	CN,	CU,	c
		10	DK,	VC.	νD,	LI,	יפט,	UD,	GE,	GH	, GM,	nk,	no,	10,	IL,	IN,	1
		WM	MU.	MV,	NO.	AA,	DI.	DT,	ъс,	DII	, LS,	EI,	CC,	LV,	mu,	nu,	m
											, 3D, , ZA,		ъч,	51,	Dr.	25,	1
	pu.	cu,	CM,	VV	IS.	MG,	en,	51	VN,	HG	, ZW,	AT.	22	CU	cv	D.E.	
		ES.	FT.	FR.	GB.	GP.	IE.	IT.	111	MC	, NL,	DT,	SE,	un,	B.T	CE,	D.
											, TD,		36,	DF,	ь,	CF,	-
	FR 2782		٠.,	٠,	A1						, 1998-		٩		1	9980	
	FR 2782				В1		2001			- 11		1000	•		•	,,,,,	V 2
	CA 2305				A1		2000	0302		CA	1999-	2305	498		1	9990	72
	AU 9950	461			A1		2000	0314		AU	1999-	5046	1			9990	
	AU 7397	15			B2		2000 2001	1018							_		-
	BR 9906	737			A		2000	0815		BR	1999'-	6737			11	9990	72
	EP 1047	389			A1		2000	1102		EP	1999-	9348	09			9990	
	EP 1047				B1		2004	0707									
	R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR	, IT,	LI,	LU,	NL,	SE,	MC,	P
		ΙE,	FI														
	HU 2001				A2		2001	0730	1	HU :	2001-	642			1	9990	72
	JP 2002		16		T C2 T T T3		2002			JP :	2000-	5658	42		1	9990	729
	RU 2200				C2		2003			RU :	2000- 1999-	1128	79		1	9990	729
	AT 2705				Ţ		2004			ΑT	1999-	9348	09			9990	
	PT 1047				T		2004			PŢ	1999-	9348	09			9990	
	ES 2224				T3		2005		- 3	E5	1999-	9348	09		1	9990	729
	ZA 2000				۸.		2000	1115		ZA	2000-	1563			21	3000	328
	MX 2000				A A A1		2000			MA.	2000- 2000- 2005-	3802			21	3000	418
DDAT	FR 1998				y,		2006 1998		,	US .	2005-	1211	20		21	JU50:	504
4 1011	WO 1999				ŵ		1999										
	US 2000				B1		2000										
os	MARPAT				21			0023									
AB	A dye c				or ke	erat	inous	s fil		. 1	n nar	tien	lar	himai	. ka	ratio	-
fibe	rs									-							
	such as	hai		ompr:	ises	in .	an ar	oproi	ria	te d	tvein	em p	dium	at	leas	st a	di

such as hair, comprises in an appropriate dyeing medium, at least a direct cationic dye of specific formula, and characterized in that it further contains at least a non-ionic surfactants, such as alkylpolyglucosides. A hair dye preparation contained 2-(p-methylaminophenylazo)-1,3-dimethylimidazolium chloride 0.12, N-decanoyl-N-He glucamine 8.0, ethanol 10, 2-amino-2-methyl-1-propanol q.s. pif = 9, and water q.s. 100 %. The composition is applied on the hair for 30 min, then it is rinsed, washed

a shampoo, and dried to obtain a strong red color.
73447-48-0 161329-44-8
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES ALL BOU (Biological use, Unclassified); BIOL (Biological study); USES (Uses)

((bas)

(hair dye composition containing direct cationic dyes and non-ionic surfactants)

ANSWER 19 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) 73447-48-0 CAPLUS 1H-Imidazolium, 2-((4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (SCI) (CA INDEX NAME)

• c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN IH-Indiazolium, 2-(14-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

• c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 20 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(hair dye compns. contg. direct cationic dyes and anionic surfactants) 73447-48-0 CAPLUS

HH-Imidazolium, 2-((4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

161329-44-8 CAPLUS 161329-161 in the Sixuctoke 161329-44-8 CAPLUS 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

• cl

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CHT 12 HERRE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 20 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2000:144695 CAPLUS 132:198846 DN 132:198846
TI Hair dye compositions containing direct cationic dyes and anionic surfactants
IN Lang, Gerard; Cotteret, Jean
L 'Oreal, Fr.
SO PCT Int. Appl., 112 pp.
CODEN: PIXXO2
DT Patent
LA French
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE UIT Patent
LA French
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2000010518 A1 20000302 WO 1999-FR1866 19990728
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, S, FI, GB, GD, GE, GH, GM, HR, HU, ID, II, IN, IS, JF, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, VH, MH, MG, MK, MM, MW, MX, MO, NZ, FL, FT, NO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VM, YU, ZA, ZW

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, EF, BJ, CF, CG, CT, CH, GA, GW, ML, MR, NE, SN, TD, TG

FR 2782450 B1 20000252 FR 1998-10546 19980819
FR 2782450 B1 20000252 FR 1998-10546 19980819
FR 2782450 B1 20000302 CA 1999-2306408 19990728
AU 728715 B2 20010118
BR 9906678 A 20000014 AU 1999-50455 19990728
AU 728715 B2 20010118
BR 9906678 A 200000829 BR 1999-6678 19990728
FP 1047388 B1 20040932
FP 1047388 B1 20040932
FP 1047388 A1 20000152 FP 1999-34801 19990728
FP 1047388 A1 20001010 EP 1999-934801 19990728
FP 1047388 A1 20001012 FP 1999-934801 19990728
FP 1047388 A1 20001012 FP 1999-934801 19990728
FP 1047388 B1 20040932
FP 1047388 B1 2004 rs such as hair, comprises in an appropriate dyeing medium, at least a direct cationic dye of specific formula, and characterized in that it further contains at least an anionic surfactant, such as acylisethionates. A hair dye preparation contained 2-(p-methylaminophenylazo)-1,3-dimethylimidazolium chloride 0.20, triethanolamine cocoylglutamate 5.0, ethanol 10, 2-amino-2-methyl-1-propanol q.s. pH = 9, and water q.s. 100 %. The ostition composition osition is applied on the hair for 30 min, then it is rinsed, washed with a shampoo, and dried to obtain a strong red color. 73447-48-0 161329-44-0

AN	2000:144694 CAPLUS										
DN	132:185243										
TI	mair dye compositio	ons containing di	rect cationic dyes and o	quaternary							
IN	Rondeau, Christine										
PA	L'Oreal, Fr.										
so	PCT Int. Appl., 112	pp.									
	CODEN: PIXXD2										
DT	Patent										
LA	French										
FAN.	CNT 1										
	PATENT NO.	KIND DATE	APPLICATION NO.	DATE							
PΙ	WD 2000010517	A1 20000302	WO 1999-FR1865	19990728							
	W: AE, AL, AM,	AT, AU, AZ, BA,	BB, BG, BR, BY, CA, CH,	CN, CU, CZ,							
			GE, GH, GM, HR, HU, ID,								
	JP, KE, KG,	KP, KR, KZ, LC,	LK, LR, LS, LT, LU, LV,	MD, MG, MK,							
	MN, MW, MX,	NO. NZ. PL. PT.	RO. RU. SD. SE. SG. SI.	SK. SL. TJ.							
	TM, TR, TT,	UA, UG, US, UZ,	VN, YU, ZA, ZW								
	RW: GH, GM, KE,	LS. MW. SD. SL.	SZ, UG, ZW, AT, BE, CH,	CY. DR. DK.							
	ES, FI, FR,	GB. GR. IE. IT.	LU, MC, NL, PT, SE, BF,	BJ. CF. CG.							
	CI, CM, GA,	GN, GW, ML, MR,	NE. SN. TD. TG								
	FR 2782451	A1 20000225	FR 1998-10547	19980819							
	FR 2782451	B1 20040409									
	CA 2305504	A1 20000302	CA 1999-2305504	19990728							
	AU 9950454	A1 20000314		19990728							
	AU 729082	B2 20010125		15550120							
	BR 9906730	A 20000822		19990728							
	EP 1047387	A1 20001102		19990728							
	EP 1047387	B1 20040908	Li 1555 554000	13330720							
	R: AT, BE, CH,		GB, GR, IT, LI, LU, NL,	SE, MC, PT,							
	IE, FI										
	HU 200004830	A2 20010528	HU 2000-4830	19990728							
	JP 2002523344	T 20020730	JP 2000-565840	19990728							
		C2 20030210		19990728							
	AT 275384	T 20040915		19990728							
	PT 1047387	T 20050131		19990728							
	ES 2229739	T3 20050416	ES 1999-934800	19990728							
	ZA 2000001562	A 20001024		20000328							
	MX 200003502	A 20001110		20000410							
	US 2005071933	A1 20050407	US 2004-880615	20040701							
	US 7087096	B2 20060808									
	US 2006156487	A1 20060720	US 2006-384520	20060321							
PRAI	FR 1998-10547	A 19980819									
	WO 1999-FR1865	W 19990728									
	US 2000-529835	B1 20000509									
	US 2004-880615	A1 20040701									
os	MARPAT 132:185243										
AB	A dye composition for	or keratinous fib	ers, in particular huma	n keratinous							
fibe											
	such as hair, compri	ises in an approp	riate dyeing medium, at	least a direct							
	cationic dye of spec	cific formula, an	d characterized in that	it further							
	contains at least a quaternary ammonium salt. A hair dye preparation										
cont	ained										
	2-(p-methylaminophe	nvlazol-1.3-dimet	hylimidazolium chloride	0.20.							

tained 2-(p-methylaminophenylazo)-1,3-dimethylimidazolium chloride 0.20, oleocetyldimethyl hydroxyethylammonium 2.0, ethanol 10, oenino-2-methyl-1-propanol q.s. pH = 9, and water q.s. 100 %. The position usition
is applied on the hair for 30 min, then it is rinsed, washed with a
shampoo, and dried to obtain a strong red color.

L6 ANSWER 21 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ANSWER 21 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 73447-48-0 161329-44-8 (Continued)

RL: BUU (Biological use, unclassified): BIOL (Biological study): USES (Uses)

(hair dye compas. containing direct cationic dyes and quaternary ammonium salts) 73447-48-0 CAPLUS

1H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN IH-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 22 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

€ c1 -

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 73447-48-0 CAPLUS
CN IH-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9C1) (CA INDEK NAME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPIUS CN H-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

€ C1 ·

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CHT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 22 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2000:34549 CAPLUS 132:97843 AN DN TI IN PA SO 132:97843 Hair dye composition containing cationic direct dye and thickening polymer Rondeau, Christine L'Oreal, Fr. Eur. Pat. Appl., 64 pp. CODEN: EPKIND DT Patent French FAN. CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE EP 970687 EP 970687 A1 B1 20000112 19990624 EP 1999-401580 Rey 10687 A1 20000112 EP 1999-401800 19990624
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LY, FI, RO
R 2780881 A1 20000114 FR 1998-8833 19980709
R: 297182 T 20051031 PT 1999-401880 19990624
R: 970687 T 20051031 PT 1999-401880 19990624
R: 2244159 T3 20051201 ES 1999-401880 19990624
R: 2938606 A1 20000203 AU 1999-36806 19990628
R: 2938606 A1 20000203 AU 1999-36806 19990628
R: 29040189 A 2000010 ZA 1999-4283 19990628
R: 2000011486 A 20000225 KR 1999-26861 19990705
R: 2905367 A 20000300 KR 1999-3124 19990705
R: 2905367 A 20000300 KR 1999-11493 19990705
R: 1246330 A 20000300 KR 1999-3680 19990708
R: 1246310 A 2000028 KR 1999-234 19990708
R: 1246314 C2 20020272 KR 1999-196817 19990708
R: 22465142 C2 20020720 KR 1999-15681 19990708
R: 22465143 A1 20051027 US 2005-67013 20050323
R: 1999-8833 A 19980709
R: 1999-4349105 B1 19990708
REPART 132:97843 20050608 AT 297182 T 20051031 AT 1999-401580 19990624
ES 2244159 T3 20051031 ES 1999-401580 19990624
AU 93958006 A1 20000203 AU 1999-36806 19990628
AU 722556 B2 20000803
ZA 9904283 A 20000110 ZA 1999-4283 19990628
BR 990124 A 20000125 KR 1999-26861 19990705
BR 9903124 A 20000528 BR 1999-3124 19990707
MX 9906367 A 20000308 CN 1999-5367 19990707
CN 1246330 A 20000308 CN 1999-5367 19990708
HU 9902334 A2 20000328 HU 1999-2334 19990708
HU 221413 B1 20020288
RU 2185142 C2 20020720 RU 1999-115089 19990708
US 2005235433 A1 20051027 US 2005-87013 20050323
FRAI FR 1998-8833 A 19980709
US 1999-349105 B1 19990708
OS MARPAT 132:97843
AB Hair dye compost containing a cationic direct dye and a sugar-containing polymer mer as thickening agent are disclosed. A hair dye composition contained 2(p-methylaminophenylazo)-1,3-dimethylimidazolium chloride 0.2, hydroxyethyl cellulose 1.0, ethanol 10, 2-amino-2-methyl-1-propanol q.s. pH = 9, and water q.s. 1004. The composition is applied on the hair for 30 min. then rinsed, washed with shampoo and dried to obtain a strong red man, then target, color.

73287-60-2 73447-48-0 161329-44-8
REL BUU (Biological use, unclassified), BIOL (Biological study), USES (Uses)

(hair dye composition containing cationic direct dye and thickening polymer]
RN 73287-60-2 CAPLUS
CN IH-Imidazolium, 2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

- ANSWER 23 OF 46 CAPLUS COPYRIGHT 2007 ACS ON STN 2000:34547 CAPLUS 132:97842
- DN TI
- Hair dye composition containing a cationic direct dye and a thickening
- polymer polymer Rondeau, Christine, Lang, Gerard, Cotteret, Jean L'Oreal, Fr. Eur. Pat. Appl., 103 pp. CODEN: EPXXDV IN PA SO
- Patent
- DT LA

FAN	.CNT 1				
	PATENT NO.		DATE	APPLICATION NO.	DATE
PI	EP 970685			EP 1999-401523	19990618
	EP 970685	B1	20050601		
	R: AT, BE, CH,	DE, DK	, ES, FR,	GB, GR, IT, LI, LU, NL,	SE, MC, PT,
	IE, SI, LT,	LV, FI	, RO		
	FR 2780882	A1	20000114	FR 1998-8834	19980709
	FR 2780882	B1	20010406		
	AT 296608	T	20050615	AT 1999-401523	19990618
	ES 2244158	T3	20051201	ES 1999-401523	19990618
	ZA 9904142	λ	19991223	ZA 1999-4142	19990623
	AU 9936777	A1	20000203	AU 1999+36777	19990625
	AU 723806	B2	20000907		
	BR 9903081	A	20000509	BR 1999-3081 .	19990630
	MX 9906255	A	20000731		19990702
	KR 2000011515	λ	20000225	KR 1999-27052	
	CN 1246331	Α	20000308	CN 1999-111494	19990708
	HU '9902331	A2	20000328	HU 1999-2331	19990708
	HU 221344	B1	20020928		
	RU 2179436	C2	20020220	RU 1999-114774	19990708
	JP 2000063248	A	20000229		
PRA	FR 1998-8834	A	19980709		

FR 1998-8834 A 19980709
Hair dye compns. containing a cationic direct dye and a thickening polymer, such as polyacrylates, are disclosed. A hair dye composition contained 2 (p-(4-aminiodinacthyl)phenylazo)-1,3-dimethylimidazolium chloride 0.2, acrylamide-ammonium acrylate copolymer (Bozepol () 1.0, ethanol 10, 2-amino-2-methyl-1-propanol q.s. pH = 9, and water q.s. 100%. The continuous contains a contained to the composition to the contained to

sition is app osition is applied on the hair for 30 min., then rinsed with water, washed with shampoo and dried to obtain a strong orange color. 73447-48-0 161329-44-8

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(hair dye composition containing cationic direct dye and thickening

mer; 73447-48-0 CAPLUS 1H-Imidazolium, 2-{(4-amino-2-chlorophenyl)azo}-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ANSWER 23 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN H-Indiazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT.

ANSWER 24 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) 1H-Imidazolium, 2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]szo]-1,3-dimethyl,-chloride [9CI) (CA INDEX AME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 73447-48-0 CAPLUS CN H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9C1) (CA INDEX NAME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN 1H-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo)-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 254111-15-4 CAPLUS

ANSWER 24 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 2000:34546 CAPLUS 132:83378 L6 AN DN TI iJZ:18378
Hair dye compositions containing a cationic direct dye and a thickening polymer
Lang, Gerard; Cotteret, Jean
Loreal, Fr.
Loreal, Fr.
Rur. Pat. Appl., 105 pp.
CODEN: EXXXVV IN PA SO DT DT Patent LA French FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE A1 B1 EP 970684 EP 970684 20000112 EP 1999-401521 19990618
 EP 970684
 Al 20000112
 EP 1999-401521
 19990618

 EP 970684
 Bl 20050608
 R: AT, BE, CM, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, LE, SI, LT, LV, FI, RO
 PR 2780883
 Al 20000114
 FR 1998-8935
 19980709

 FR 2780883
 Bl 2010406
 2010406
 Al 1999-401521
 19990618

 AI 297181
 T 20059615
 AT 1999-401521
 19990618

 ES 2244157
 T3 20051201
 ES 1999-401521
 19990618

 ES 29304102
 A 20000125
 ZA 1999-401521
 19990618

 ES 3904102
 A 20000125
 ZA 1999-401521
 19990618

 EN 903212
 A 20000125
 ZA 1999-401521
 19990618

 EN 906225
 A 20000125
 ZA 1999-401521
 19990618

 EN 903212
 A 20000510
 BR 1999-3122
 19990705

 EN 200001517
 A 20000225
 KR 1999-2706
 19990705

 EN 200001517
 A 20000225
 KR 1999-2706
 19990706

 EN 200001517
 A 20000225
 KR 1999-2706
 19990708

 EN 218434
 A 200000225
 KR 1999-2330
 19990708

 20050608

100%. The composition to appear with shampon and dried to obtain a strong orange color.

17 73287-60-2 73447-48-0 161329-44-8
254111-15-4
RL: BUU (Biological use, unclassified), BIOL (Biological study); USES (Uses)
(Uses)
(hair dye composition containing cationic direct dye and thickening polymer) polymer) RN 73287-60-2 CAPLUS

ANSWER 24 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) 1H-Inddazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1-ethyl-3-methyl-, chloride (9CI) (CA INDEX NAME)

● c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

(Continued)

```
ANSWER 25 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1999:788350 CAPLUS 132:26624 Hair dye compositions comprising a direct cationic dye and a substantive cationic or amphoteric polymer Rondeau, Christina Oreal S. A., Fr. Fr. Demande, 68 pp. CODEN: FRXXBL Patent
      L6
AN
DN
TI
                                   Patent
French
      LA Fre
                                   PATENT NO.
                                                                                                                                                                                           DATE
                                                                                                                                                       KIND
                                                                                                                                                                                                                                                                      APPLICATION NO.
                                                                                                                                                                                                                                                                                                                                                                                                                DATE
                                FR 2776923
FR 2776923
EP 953334
EP 953334
EP 953334
                                                                                                                                                           Al
Bl
                                                                                                                                                                                                  19991008
                                                                                                                                                                                                                                                                     FR 1998-4234
                                                                                                                                                                                                                                                                                                                                                                                                              19980406
                                                                                                                                                                                                20030110
                                                                                                                                                                                              19991103
20000308
20041020
                                                                                                                                                                                                                                                                      EP 1999-400711
                                                                                                                                                                                                                                                                                                                                                                                                              19990323
EP 953334 A3 20000308
EP 953334 B1 20041020
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
AT 279903 T 20041115 AT 1999-400711 19990323
FT 953334 T 20050516 ES 1999-400711 19990323
ZA 9902429 A 19991008 ZA 1999-2429 19990330
AU 922540 A 19991008 ZA 1999-22420 19990330
AU 722097 B2 20000720
CN 1233466 A 19991103 CN 1999-107305 19990401
HU 9900867 A2 19991128 HU 1999-867 19990405
HU 9900867 A2 19991228 HU 1999-867 19990405
BR 9901590 A 20000530 BR 1999-1590 19990405
BR 9901590 A 20000530 BR 1999-1590 19990405
RX 9903129 A 20000530 BR 1999-1590 19990405
RX 9903129 A 20000731 KX 1999-3129 19990405
RX 9003129 A 20000731 KX 1999-3129 19990405
RX 9003149 A1 19991210 RX 1999-3129 19990405
RX 2002046432 A1 1999108 CA 1999-266053 19990405
US 2002046471 A1 20040805 US 2004-761213 20040122
US 2002019953 A9 20030130
US 2004148711 A1 20040805 US 2004-761213 20040122
JF 2005169522 A 20060629 JF 2006-60143 20060306
FRAIFR 1999-4234 A 19980405
US 1999-287176 B1 19990405
AB The title hair dye compns. are disclosed. A hair dye contained Me pyriddinium N,N-dimethylbenzylidene derivative 0.09, a quaternary ammonium polymer 1.0, nonly phenol containing 9 mols of ethylene oxide 8.0, 2-amino-2-Me propanol q.s. pH = 9, and water q.s. 100 g. The composition is applied on the hair for 30 min, then is washed with shampoo and dried to obtain a strong copper color.

T3447-48-0 161329-44-8
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
                                (hair dye compns. comprising direct cationic dye and substantive cationic or amphoteric polymer)
73447-48-0 (APLUS
IH-Imidazolium, 2-((4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride
(SCI) (CA INDEX NAME)
```

ANSWER 26 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN ● c1-ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN 1H-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME) • c1 ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 26 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
1999:783697 CAPLUS
132:26629
hair dye compositions containing a direct cationic dye and a polyol and/or a polyolether
Rondeau, Christine
L'Oreal, Fr.
EUr. Pat. Appl., 54 pp.
CODEN: EPXXDW
Patent
French
.CNT 1
PATENT NO. DT PATENT NO. DATE APPLICATION NO. DATE

L6 AN DN TI

ANSWER 25 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN IH-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

```
ANSWER 27 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1999:468546 CAPLUS 131:120593
  AN
DN
TI
IN
PA
50
                        131:120593
Oxidative hair dye compositions containing a laccase and cationic dyes
Lang, Gerard, Cotteret, Jean
L'Oreal, Fr.
PCT Int. Appl., 82 pp.
CODEN: PIXXD2
  DT
                        Patent
                                                                                                      APPLICATION NO. DATE

A1 19990722 WO 1998-PR2752 19981216

T, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,
FI, GB, GB, GE, GH, GH, HR, HU, ID, IL, IS, JP, KE,
L, KZ, LC, LK, LR, LS, LT, LU, LV, MD, HG, HK, MN, MY,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
US, UZ, VN, YU, ZV
LS, HW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,
GR, LE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,
GW, ML, MR, NE, SN, TD, TG
A1 19990716 FR 1998-248 19980113

A1 19990722 CA 1998-2315921 19981216
A 19990802 AU 1999-17646 19981216
B2 20010118
A 20001107 BR 1998-14732 19981216
B1 200010523
DE, DK, ES, FP
                         French
   FAN.CNT 1
                        PATENT NO.
                     WO 9936034
EP 104/376 A1 2000102 EP 1998-992481 19981216

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

ES 2159195 T3 2001030 PT 1998-962481 19981216

PT 104/376 T 20011030 PT 1998-962481 19981216

JP 2002599086 T 2002026 JP 2000-539810 19981216

RU 2202333 C2 20030420 RU 2000-121054 19981216

GR 3036415 T3 20011130 GR 2001-401266 20010820

US 2005193503 A1 20050908 US 2005-60579 20050218

PRAI FR 1998-248 A 19980113

WO 1998-FRX152 W 19981216

US 2000-600129 B1 20000911

OS MARPAT 131:120593

AB A ready-to-use exidative hair dye composition contains 1 exidation dye, at least 1
                       t 1 cationic direct dye and at least an enzyme such as laccase. Thus, a hair dye composition contained p-phenylenediamine 0.283, 5-N-(β-hydroxyethylamino)-2-methylphenol 0.283, a cationic dye, Basic Red-76 0.094, laccase (180 U/mg) of Rhus vernicifera 1.8 and water to 100 g. This composition also contained a mixture of Oramix 4.8 g and EtOH 20.0 g the
  and the
                    the
pH was adjusted to 6.5.
73447-48-0 161329-44-8
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(oxidative hair dye compns. containing laccase and cationic dyes)
73447-48-0 CAPLUS
1H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride
  ΙT
```

ANSWER 28 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
1999:282059 CAPLUS
130:316429
Oxidative hair dye comprising a direct cationic dye and a direct nitrated beneane dye
Rondesu, Christine
L'Oreal, Fr.
PCT Int. Appl., 74 pp.
CODEN: PIXXD2
Patent
French
CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE DT LA FAN

h keratin fibers such as hair comprising, in an appropriate dyeing medium, at least a direct cationic dye properly selected, and at least a direct nitrated benzens dye, and the dyeing method using said composition are disclosed. A hair dye composition contained 2-anino-5-hydroxy nitrobenzene 0.35, a direct cationic orange dye 0.065, water and excipients q.s. 100%. The composition is applied on the hair for 30 min, then washed and dried to

ANSWER 27 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (9CI) (CA INDEX NAME) (Continued)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS CN 1H-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 28 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

obtain a copper color. 73447-48-0 151329-44-8 RL: EUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)
73447-48-0 CAPIUS
HI-Indiazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride
(9CI) (CA INDEX NAME)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE 161329-44-8 CAPLUS
1H-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-,
chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RE.CRT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECOI
ALL CITATIONS AVAILABLE IN THE RE FORMAT

(Continued)

```
ANSWER 29 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1999:282058 CAPLUS 130:316428
  DN
TI
              Oxidative hair dye comprising a cationic direct dye and an auto-oxidizable
               dye
Lang, Gerard; Audousset, Marie-Pascale
            L'Oreal, Fr.
PCT Int. Appl., 70 pp.
CODEN: PIXXD2
Patent
French
  PA
SO
  DŦ
  LA Fre
              PATENT NO.
                                                                               DATE
                                                                 KIND
                                                                                                                APPLICATION NO.
                                                                                                                                                                           DATE
                      9920234 A1 19990429 W0 1998-FR2144 19981007
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, CD, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KF, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MV, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, 2V

RWI GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
2275364 A1 19990510 AU 1998-94473 19981007
390008 B2 20010222
971682 A1 20000119 EP 1998-947622 19981007
971682 B1 20040317
RI: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE
             WO 9920234
                                                                  A1
                                                                                  19990429
                                                                                                                WO 1998-FR2144
                                                                                                                                                                           19981007
             CA,
CA 2275364
AU 9894473
AU 730008
EP 971682
EP 971682
             EP 971682 B1 20040317
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE
BR 9806825 A 20000425 BR 1998-6825
JP 2000516265 T 20001205 JP 1999-523336
RU 2168978 C 20010620 RU 1999-116255
AT 261717 T 20040415 AT 1998-947622
                                                                                                                                                                            19981007
RV 2168978
AT 261717
ES 2218854
US 6503283
PRAI FR 1997-13242
VO 1998-FR2144
OS MARPAT 130:316428
AB A ready-to-use con
                                                                                                                                                                            19981007
19981007
                                                                  T
T3
                                                                                                                                                                            19981007
                                                                                  20041116
20030107
                                                                                                                ES 1998-947622
US 1999-331251
                                                                  B1
A
W
                                                                                  19971022
19981007
                  ready-to-use composition for dyeing keratin fibers, and in particular
              keratin fibers such as hair comprising, in an appropriate dyeing medium, at least a cationic direct dye, and at least an auto-oxidizable dye, and the dyeing method using said composition is disclosed. A hair dye saition
             contained 5,6-dihydroxyindoline hydrobromide 0.7, cationic direct Basic
Red 76 0.1, water and excipients q.s. 100%. The composition is applied on
             hair for 30 min, then washed and dried to obtain a red blond color.
73447-48-0 161329-44-8
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Oxidative hair dye comprising cationic direct
 ΙT
                           xidative hair dye comprising cationic direct dye and auto-oxidizable
             dye)
73447-48-0 CAPLUS
HH-Inidazolium, 2-{(4-amino-2-chlorophenyl)azo}-1,3-dimethyl-, chloride
(9CI) (CA INDEX NAME)
```

ANSWER 30 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
1999:244546 CAPLUS
130:301479
130:301479
Oxidative hair dye compositions containing oxidoreductase-type enzymes, oxidation bases, and direct cationic dyes
De La Mettrie, Rolands Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille L'Oreal, Fr.
PCT Int. Appl., 83 pp.
CODEN: PIXXD2
Patent
French
CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE L6 AN DN TI VO 9917730,
W: AL,
DK,
KG,
MX,
TT,
RW: GH,
FR 2769213
F 989/98 B1 20030723
R: AT, BE, CH, DE, DX, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI
9806205 A 2000215 BR 1998-6205 19980928
2000507987 T 20000627 JP 1999-521117 19980928
3814304 B2 20060830 20000215 20000627 20060830 20000928 BR 9806205 JP 2000507987 JP 3814304 HU 200001335 NZ 335513 B2 A2 HU 2000-1335 NZ 1998-335513 RU 1999-114007 AT 1998-946516 MX 1999-4998 NO 1999-2646 US 1999-319166 19980928 A C2 T T3 20001222 NZ 335513
RU 2167646
AT 245408
ES 2205548
MX 9904998
NO 990266
US 6228129
PRAIF FR 1997-12353
WO 1998-FR2075
OS MARPAT 1301301479
BA A REGULATION ON 20010527 19980928 20010527 20030815 20040501 20000228 19990712 20010508 19971003 19980928 19980928 19990528 19990601 A A B1 19990701 19980928 AB A ready-to-use oxidation dyeing composition for keratin fibers, and in particular cular for human keratin fibers such as hair comprise, in a medium appropriate for dyeing at least an oxidation base, at least a direct cationic dye, and least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme. A hair dye composition contained para-phenylenediamine 0.7, 2-(4-methylaminophenylazo)-1,3-dimethylimidazolium chloride 0.6, uricase (20 IU/mg) 1.5, uric acid 1.5, excipients and water q.s. 100 g. 73287-60-2 73447-48-0 161329-44-8

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

oxidation

(oxidative hair dye compns. containing oxidoreductase-type enzymes,

ANSWER 29 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 161329-44-8 CAPLUS
CN 1H-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-,
chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RE.CHT 2 THERE ARE CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CLATICIONS AVAILABLE IN THE RE FORMAT

L6

ANSWER 30 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) bases, and direct cationic dyes) 73287-60-2 CAPLUS 1H-Imidazolium, 2-[(4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 73447-68-0 CAPLUS
CN | H-Imidazolium, 2-[(4-smino-2-chlorophenyl)szo]-1,3-dimethyl-, chloride (9C1) (CA INDEX NAME)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN - 161329-44-8 CAPLUS CN IH-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1*

L6 ANSWER 30 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 IT	ANSWER 31 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) 73447-48-0 161329-44-8
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
	(Uses)
	(cationic direct dye; oxidative dye composition providing good color and
	durability for keratin fibers, especially hair)
RN	73447-48-0 CAPLUS
CN	<pre>1H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride</pre>
	(9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 161329-44-8 CAPIUS
CN 1H-Inidacolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-,
chloride (9CI) (CA INDEX NAME)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

L6	ANSWER 31 OF 46 CA	PLUS C	OPYRIGHT 200	7 ACS on STN	
AN	1998:586776 CAPLUS				
DN	129:166068				
TI	Oxidative dye compo	sition .	for keratin :	fibers and method fo	r dveing
IN	Rondeau, Christine;	Cotter	et, Jean; De	la Mettrie, Roland	
PA	L'Oreal S. A., Fr.			•	
50	Fr. Demande, 50 pp.				
	CODEN: FRXXBL				
DT	Patent				
LA	French				
FAN.	CNT 1				
		KIND	DATE	APPLICATION NO.	DATE
PΙ	FR 2757385	A1	19980626	FR 1996-15892	19961223
	FR 2757385	B1	19990129		
	EP 850636	A1	19980701	EP 1997-402834	19971125
	EP 850636	B1	19990506		
	R: AT. BE. CH.	DE. DK	. ES. FR. GB.	, GR, IT, LI, LU, NL	. SE. MC. PT.
	IE, FI				
	AT 179592	T	19990515	AT 1997-402834	19971125
	ES 2134055	т3	19990916	ES 1997-402834	19971125
	AU 9747629	A	19980625	AU 1997-47629	19971209
	AU 694398	B2	19980716		
	ZA 9711240	A	19980623	ZA 1997-11240	19971215
	CZ 291838	В6	20030618	C2 1997-4077	19971217
	BR 9706295	A	19990504	BR 1997-6295	19971218
	HU 9702512	A1	19990128	HU 1997~2512	19971219
	HU 224430	B1	20050928		
	US 5919273	A	19990706	US 1997-994127	19971219
	CA 2223726	A1	19980623	CA 1997-2223726	19971222
	CA 2223726	C	20030211		
	JP 10182378	A	19980707	JP 1997-353833	19971222
	JP 2968243	B2	19991025		
	CN 1189332	λ	19980805	CN 1997-120861	19971222
	CN 1189333	A	19980805	CN 1997-120883	19971222
	CN 1145473	В	20040414		
	RU 2160086	C2	20001210	RU 1997-122261	19971222
	PL 188695	B1	20050331	PL 1997-323987	19971222
PRAI	FR 1996-15892	A	19961223		
os	MARPAT 129:166068				
AB	Oxidative dye compn:	s. for l	keratin fiber	rs, especially for h	uman hair,
comp	rise				
				m-aminophenol deriv	
				zo, ethylenic or CH:1	
				nd ≥1 oxidizing agen	
				hair dye are claime	
				coloration with good	
	durability. Thus,	adyeco	omposition wa	as prepared containi	ng oxidation base
				5-N-(β-hydroxyethyl).	
				imethylimidazolium-2	
				irect dye. At time	
		pined w	ith a hydroge	en peroxide solution	Natural gray
hair	was				
		compos	ition by appl	lying the composition	n for 30 and min
and	then				
		ing. Tl	he dyed hair	was a deep blond wi	th intense red
	highlights.				

L6	ANSWER 32 OF 46 CA		OPYRIGHT 200	7 ACS	on STN	
AN DN	1998:586775 CAPLUS 129:166067					
11	Oxidative dye compo	sitions	for keratin	fiber	rs and dweing	method
IN	Rondeau, Christine;					
PA	L'Oreal S. A., Fr.				•	
50	Fr. Demande, 51 pp. CODEN: FRXXBL					
т	Patent				•	
LA	French					
AN.	CNT 1					
	PATENT NO.	KIND .	DATE	APPLI	CATION NO.	DATE
PI	FR 2757384	A1	19980626		96-15891	19961223
	FR 2757384	B1	19990115			
	EP 850637	A1	19980701	EP 19	97-402848	19971126
	EP 850637 R: AT. BE. CH.	B1	19990602	CD.		NL, SE, MC, PT,
	IE, SI, LT,			, GR,	11, 11, 10, 1	NL, SE, MC, PT,
	AT 180664	T	19990615	AT 19	97-402848	19971126
	ES 2134672	T3	19991001		97-402848	19971126
	AU 9747632	A	19980625	AU 19	97-47632	19971209
	AU 705812 ZA 9711241	B2	19990603			
	CZ 291831	A D6	19980626 20030618		997-11241 997-4079	19971215
	US 5993490	A A	19991130		97-994130	19971217 19971219
	CA 2222851	A B6 A A1	19980623		97-2222851	19971222
	CA 2222851	Ċ	20030211			
	JP 10218746	A B2 A B A1 C2	19980818	JP 19	97-353834	19971222
•	JP 2954121	B2	19990927			
	CN 1192356	À	19980909	CN 19	97-120896	19971222
	CN 1119988 HU 9702528	В.	20030903 19990128	1771 10	97-2528	19971222
	RU 2160084	C.5	20001210	DU 10	97-121288	19971222
	PL 189005	B1	20050531		97-323984	19971222
	BR 9706327	A	19990504		97-6327	19971223
	FR 1996-15891	A	19961223			
s	MARPAT 129:166067					
ιB	Oxidative dye compn:	for)	ceratin fibe	rs, pa	rticularly hu	uman hair,
	contain, ≥1 oxidation bisphenylalkylenedia	on base	pased o p-p	nenyie	neciamine and	nol (e g
	resorcinol derivs.)					
	based on cationic n					
	oxidizing agent. A	dyeing	method and	kit de	eign for pac)	caging the hair
						coloration with good
	luminescence which osition	exhibi te	good shamp	oo res	istance. Thu	ıs, a dye
опро	of p-phenylenediami:	1.3-	di hadrovahe		1-methy/l-4-	
	carboxaldehydepyrid					ate and
	N-[(1,3-dimethylimic	dazolium	-2-y1) azoph	enyl]-	p-phenylenedi	amine chloride
	was mixed with hydro	gen per	oxide and a	pplied	for 39 min t	to naturally gray
		exhibi	ted a deep	chestn	ut color and	exhibited good
т	shampoo resistance.					
•	161329-44-8 RL: BUU (Biological		-1 fi -d)		(Biological	atudal a Here
	(Uses)	43e, ur	·~*************	. 5101	, (Diological	Jeaus) 1 USES
	(cationic direct	dye; ox	idative hair	r dye	compns. with	good coloration
	and shampoo resis			•	•	,
N	161329-44-8 CAPLUS					
N	1H-Imidazolium, 2-[oxyphe	nyl) azo]-1,3-	dimethyl-,
	chloride (9CI) (CA	INDEX P	AME)			

ANSWER 32 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 33 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN dimethyl-, chloride (9CI) (CA INDEX NAME) (Continued)

● c1 -

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 73447-48-0 CAPIUS CN H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]-1,3-dimethyl-, chloride (9C1) (CA INDEX NAME)

$$N = N - \sum_{i=1}^{N+1} N + i$$

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPEUS CN HR-Ind/dezolium, 2-(14-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 33 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1998:577128 CAPLUS AN DN TI 1998:57/128 CAPUS
129:1667070 compositions containing cationic direct colorants for keratin fibers and dyeing method
Rondsau, Christine: Cotteret, Jean: De la Mettrie, Roland
L'Oreal S. A., Fr.
Fr. Demande, 69 pp.
CODEN: FRXXBL DT Patent French FAN. CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE FR 2757388 FR 2757388 EP 850638 EP 850638 19980626 19991112 19980701 A1 B1 A1 B1 19961223 FR 1996-15895 EP 850638

B1 1990701
EP 1997-402863
19971127
EP 850638
B1 19990901
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, FI

AT 183917
T 19990915
AT 1997-402863
19971127
ES 2138855
T3 20000116
ES 1997-402863
19971127
ZA 9711309
A 19980623
ZA 1997-11309
19971217
US 6001135
A 19991214
US 1997-4076
19971217
US 6001135
A 19991214
US 1997-994444
19971217
US 6001135
CA 2222852
C 20030514
CA 2222852
CA 2222852
C 20030608
JP 10182379
A 19980607
JP 1997-353836
19971222
CA 2222852
CA 2222852
C 20030408
JP 2974645
ED 19991110
HU 9702527
HU 222611
B1 20030929
RU 2160085
C2 20001210
RU 1997-2527
B2 19971222
BR 9706323
A 19990504
BR 1997-6323
BR 9706323
A 19990504
BR 1997-6323
BR 9706323
A 19990504
BR 1997-6323
BR 9706323
A 1999103
PRAIF R 1996-15895
A 19961223

PRAIF R 1996-15895
BR 9706323
BR 970 EP 1997-402863 19971127 to naturally gray hair and then rinsed and shampooed off. The treated hair had an intense red nuance which was resistant to subsequent shampooing.

73287-60-2 73447-48-0 161329-44-8
RL: BUU (Biological use, unclassified), BIOL (Biological study); USES (Uses)
(cationic direct colorant; oxidative hair dye compns. containing cationic direct colorants with good coloration, shine, and shampoo resistance)
73287-60-2 CAPLUS
1H-Imidazolium, 2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3-

L6	ANSWER 34 OF 46 CA	PLUS	COPYRIGHT 20	07 ACS on STN	
AN	1998:577127 CAPLUS	;		•	
DN	129:166069				
TI	Oxidative dve compo	sition:	for kerati	n fibers and method f	or dveina
IN	Rondeau, Christines	Cotte	ret. Jean: D	e la Mettrie. Roland	
PA	L'Oreal S. A., Fr.				
so	Fr. Demande, 39 pp.				
	CODEN: FRXXBL				
DT	Patent				
LA	French				
FAN.	CNT 1				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2757387	A1	19980626	FR 1996-15894	19961223
	FR 2757387	B1	19990129		13341113
	EP 852135	A1	19980708	EP 1997-402864	19971127
	EP 852135	B1	19990428		
	R: AT. BE. CH.	DE. DI		B, GR, IT, LI, LU, NL	SF MC PT
	IE, FI	,	,,,	.,,,,,	, 55, 110, 11,
	AT 179325	T	19990515	AT 1997-402864	19971127
	ES 2134056	T3	19990916	ES 1997-402864	19971127
	AU 694083	В1	19980709	AU 1997-47630	19971209
	ZA 9711308	Ä	19980701	ZA 1997-11308	19971217
	CZ 291830	В6	20030618	CZ 1997-4078	19971217
	US 5879412	Ä	19990309	US 1997-994446	19971219
	CA 2223722	A1	19980623	CA 1997-2223722	19971222
	CA 2223722	C	20030318		
	JP 10194942	Ă	19980728	JP 1997-353835	19971222
	JP 2954122	B2	19990927		
	CN 1189331	λ	19980805	CN 1997-120860	19971222
	CN 1119987	В	20030903		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	HU 9702529	A1	19990128	HU 1997-2529	19971222
	HU 220160	В	20011128		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	BR 9706312	A	19990504	BR 1997-6312	19971222
	RU 2177305	C2	20011227	RU 1997-121232	19971222
	PL 188879	B1	20050531	PL 1997-323985	19971222
PRAI	FR 1996-15894	λ	19961223		23311666
05	MARPAT 129:166069	••			
GI	123.100003				
~.					

$$AN = N - \bigvee_{R4}^{R3} NR^1R^2 \quad X$$

AB The title oxidative dye compns., especially for human keratinous fibers such as hair, contain >1 oxidation base chosen from p-phenylenediamines, bisphenylelkylenediamines, and their acid salts; >1 coupler chosen from a-phenylenediamines and their acid salts; >1 coupler chosen from a-phenylenediamines and their acid salts; and >1 cationic direct colorant I (RI = H or CI-4 alkyl; RZ = H, alkyl optionally cyanoor amine-substituted, 4-aminophenyl, or forms with RI a heterocycle: R3 and R4 = independently H, halogen, CI-4 alkyl, CI-4 alkoxy, or cyano; X-=

- ANSWER 34 OF 46 -CAPLUS COPYRIGHT 2007 ACS on STN (Continued) anion, chosen, preferably from Cl-, MeOSO3-, and AcO-, A = a substituted cationic nitrogenous heterocycle); and %1 oxidizing agent. The dye compns, enables a rich coloration with good gloss, good properties and durability. Thus, an oxidative dye compn. was formed from p-phenylenediamine, 2.4-diamino-1-(2-hydroxyethoxyy) benzene dihydrochloride and direct cationic colorant I where R1,R3,R4 = H, R2 = 4-aminophenyl, A = 1,3-dimethylimidazolium-2-yl, and X = Cl- using hydrogen peroxide as the oxidizing agent. The compn. was applied to natural gray hair for 30 min to give hair with a luminous chestnut ash tint. The color was resistant to several subsequent shampoonings.

 161329-44-8 ΙT
 - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 - (Uses)
 (Cationic direct colorant, oxidative hair dye compns. with good shine and shampoo resistance)
 161329-44-8 CAPLUS
 HH-Imidazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 35 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 161329-44-8 CAPLUS
CN 1H-1midazolium, 2-[(4-amino-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

€ C1 **

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

L6 AN	ANSWER 35 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1995:394987 CAPLUS												
DN	122:169673												
TI	Hair dyeing preparations containing cationic dyes												
IN	Moeckli, Peter												
PA	Ciba-Geigy AG., Switz.												
so	PCT Int. Appl., 40 pp. CODEN: PIXXD2												
DT	Patent												
LA	English												
FAN.	CNT 1												
	PATENT NO. KIND DATE APPLICATION NO. DATE												
PI	WO 9501772 A1 19950119 WO 1994-EP2077 19940627												
	W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, FI, GE, HU, JP, KE, KG, KP,												
	KR, KZ, LK, LV, MD, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SI, SK,												
	TJ, TT, UA, US, UZ, VN												
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,												
	BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG												
	CA 2142091 A1 19950119 CA 1994-2142091 19940627												
	CA 2142091 C 20010529												
	CA 2142091 C 20010529 AU 9473448 A 19950206 AU 1994-73448 19940627												
	AU 687849 B2 19980305 EP 658095 A1 19950621 EP 1994-922240 19940627												
	EP 658095 A1 19950621 EP 1994-922240 19940627												
	EP 658095 B1 20010829												
	R: CH, DE, ES, FR, GB, IT, LI												
	CN 1111444 A 19951108 CN 1994-190428 19940627												
	m: 10/5743 n 0004054												
	CN 1085/43 B 20010516 P 20010516												
	BR 9405500 A 19990908 BR 1994-5500 19940627												
	BR 9405500 A 19990908 BR 1994-5500 19940627 ES 2161775 T3 20011216 ES 1994-922240 19940627												
	JP 3281386 B2 20020513 JP 1995-503794 19940627												
	JP 3281386 B2 20020513 JP 1995-503794 19940627 US 5733343 A 19980331 US 1996-756448 19961126												
PRAI	CH 1993-2020 A 19930705												
	CH 1993-2020 A 19930705 WO 1994-EP2077 W 19940627												
	US 1995-392783 B1 19950228												
os	MARPAT 122:169673												
AB	Keratin-containing fibers, in particular human hair, are dyed using cationic												
	dyes (Markush structure given). Human hair was dyed with a dye emulsion												
	containing 4-(2-methyl-2-phenylhydrazinylidenemethyl)-1-methylpyridinium												
	chloride 1, excipients and water q.s. 100% to obtain an intensive												
	brilliant yellow color which was many times stronger than a color obtained												
	with Basic Yellow 57 in the same way.												
IT	73447-48-0 161329-44-8												
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES												
	(Uses)												
	(hair dyeing prepns. containing cationic dyes)												
RN	73447-48-0 CAPLUS												
CN	1H-Imidazolium, 2-[(4-amino-2-chlorophenyl)azo]+1,3-dimethyl-, chloride												
	(9CI) (CA INDEX NAME)												
	land in viole ingits												

```
L6 ANSWER 36 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1981:S15558 CAPLUS
Divretic and hypotensive 2[(2-halophenyl)azo]-lH-imidazoles
FAN Hochida Pharmaceutical Co., Ltd., Japan
Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1
PATENT NO. FAND DATE APPLICATION NO.
                                                                                                                     APPLICATION NO.
PATENT NO.

PI JP 56053658

PRAI JP 1979-130245

OS CASREACT 95:115558

GI
              PATENT NO.
                                                                   KIND
                                                                                    DATE
                                                                                                                                                                                 DATE
                                                                                     19810513
19791009
                                                                                                                    JP 1979-130245
                                                                                                                                                                                 19791009
```

- 2-[(2-Halophenyl)azo]-1H-imidszoles I (X = F, Cl, Br, iodo), were prepared by diszotizing o-halosnilines followed by condensation with imidszole. I (X = F, Cl) showed diuretic activity approx. equal to that of furosemide. 66963-85-7pAB IT
- ooyoj-e5-7/ RL: SPN (Synthetic preparation); PREP (Preparation) (preparation, diuretic, and hypotensive activity of) 6963-85-7 CAPLUS 1H-Imidazole, 2-[(2-fluorophenyl)azo]- (9CI) (CA INDEX NAME)

DATE

19780831

19790829

19790830 19790830

ANSWER 37 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1980:409557 CAPLUS 93:9557 Cationic dyes Kuehlthau, Hans Peter Bayer A.-G., Fed. Rep. Ger. Offen., 15 pp. CODEN: GWXXEX Patent Patent LA German FAN. CNT 1 PATENT NO. KIND DATE APPLICATION NO. DE 2837953 GB 2029439 GB 2029439 JP 55034298 19800313 19800319 A1 A B A DE 1978-2837953 GB 1979-29916 ΡĪ 19830202 FR 2434847
PRAI DE 1978-2837953
GI 19800310 JP 1979-109797 FR 1979-21771

$$\bigcap_{\substack{N \\ N \\ R1}}^{N} N=N - \bigcap_{\substack{R^2 \\ R^3}}^{R^2} R^4 - X^{-}$$

Dyes of general structure I, useful for dyeing acrylic fibers in fast reddish shades, were prepared, where R and R1 (independently) = lower alkyl, alkenyl, or hydroxyalkyl, R2 = lower alkyl, alkenyl, or alkoxy, R3 = H, alogen, lower alkyl, alkenyl, or alkoxy, R4 = RMe2, $X_{\rm c}$ = anion. Thus, I (R = R1 = R2 = Ms, R3 = H, R4 = X = C1) [73754-09-3] was mixed with HCl and Me2RM solution, treated with enough Me2RM at 90 to give complete conversion, diluted with NaCl solution, and adjusted to pH 5 with HCl to

I (R=R1=R2=Me, R3=H, R4=NMe2, X=C1) (II) [73754-08-2], which dyed acrylio fibers in fast bluish red shades. II was also prepared by reaction of I (R=R1=R2=Me, R3=R4=H, X=C1) [73754-10-6] with Me2NH solution at room temperature while passing atmospheric 0 through the

MeZNR SOLUTION -Matter
II: 73754-12-8P 73760-35-7P
RL: PREP (Preparation)
(manufacture of, as dye for acrylic fibers)
RN 73754-12-8 CAPLUS
CN 1H-Inddazolium, 2-[[4-(dimethylamino)-2-methoxyphenyl]azo]-1,3-dimethyl-,
chloride (SCI) (CA INDEX NAME)

ANSWER 37 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN , trichlorozincate(1-) (9CI) (CA INDEX NAME) (Continued)

CRN 73760-32-4 CMF C14 H18 C1 N4 O3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CRN 23603-98-7 CMF C13 Zn CCI CCS

C1-| 2+ | C1- C1-

73754-11-7
RL: RCT (Reactant): RACT (Reactant or reagent)
(reaction of, with dimethylamine)
73754-11-7 CAPUS
HH-Imidazolium, 2-((4-chloro-2-methoxyphenyl)ezo]-1,3-dimethyl-, chloride
(9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

(Continued) . ANSWER 37 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 73760-35-7 CAPIUS
RI-Indiazolium, 2-[(4-(dimethylamino)-2-methoxyphenyl]azo]-1,3-bis(2-hydroxyethyl)-, trichlorozincate(1-) (9CI) (CA INDEX NAME)

CRN 73760-34-6 CMF C16 H24 N5 O3

сн2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 23603-98-7 CMF C13 2n CCI CCS

73760-33-5P
RL: IMF (Industrial manufacture); RCT (Reactant); FREP (Preparation); RACT (Reactant or reagent)
(preparation and amination of, by dimethylamine)
73760-33-5 CAPLUS
1H-Imidazolium, 2-[(4-chloro-2-methoxyphenyl)azo]-1,3-bis(2-hydroxyethyl)-

ANSWER 38 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1980:216729 CAPLUS 92:216729

AN DN TI

Z2:210/29 Cationic dyes Kuehlthau, Hans Peter Bayer A.-G., Fed. Rep. Ger. Ger. Offen., 13 pp. CODEN: GWXXEX

DT LA

FAN.	CNT 1				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2837908	A1	19800313	DE 1978-2837908	19780831
	GB 2028858	A	19800312	GB 1979-29914	19790829
	GB 2028858	В	19830119		
	FR 2434846	· A1	19800328	FR 1979-21770	19790830
	ES 483732	Al	19800516	ES 1979-483732	19790830
	BR 7905572	A	19810304	BR 1979-5572	19790830
	JP 55034300	A	19800310	JP 1979-111621	19790831
PRAI	DE 1978-2837908	A	19780831		
GI					

Cationic dyes (I, R,Rl (independently) = lower alkyl, alkenyl, or hydroxyalkyl, R2, R3 = H, halogen, lower alkyl or alkenyl (at least one of R2 and R3 = H), R4 = H, X = anion) are prepared and used to dye acrylic and modified polyester fibers fast orange shades. Thus, I $\{R = R1 = He, R2 = H, R3 = C1, R4 = Ac, X = MesO4\}$ [69242-26-8] was boiled with aqueous HCl to give I $\{R = R1 = He, R2 = R4 = H, R3 = C1, X = C1\}$ [69242-21-3].

73760-37-9

(dye, for acrylic fibers, preparation of)
73760-37-9 CAPUS

1H-Imidazolium, 2-(4-amino-2,5-dichlorophenyl)azo]-1,3-bis(2-hydroxyethyl)-, trichlorozincate(1-) (9CI) (CA INDEX NAME)

CRN 73760-36-8 CMF C13 H16 C12 N5 O2

19790712

ANSWER 38 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 23603-98-7 CMF C13 Zn CCI CCS

C1-| 2+ -C1-Zn-C1-

ANSWER 39 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

$$\bigwedge_{N}^{\text{Me}} N = N - \bigvee_{C1}^{NH_2}$$

• c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IT 73447-49-1P

RL: PREP (Preparation)

(manufacture of, as dye for acrylic or acid-modified polyester fibers)

RN 73447-49-1 CAPLUS

CN HH-Imdiazolium, 2-{[2-chloro-4-{(2-hydroxyethyl)amino]phenyl]azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

● c1-

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IT 73456-12-9P
RL: IMP (Industrial manufacture), RCT (Reactant), PREP (Preparation), RACT
(Reactant or reagent)
(preparation and deacetylation of)
RN 73456-12-9 CAPLUS
CN HH-Indiazolium, 2-[[4-(acetylamino)-2-chlorophenyl]ezo]-1,3-dimethyl-,
(T-4)-tetrachlorozincate(2-) (2:1) (SCI) (CA INDEX NAME)

CM .1

CRN . 73456-11-8 CMF C13 H15 C1 N5 O

ANSWER 39 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1980:182561 CAPLUS 92:182561 DN 92:182561
TI Basic azo dyes free of sulfonic acid groups
IN Blass, Ulrich, Henri, Beat
PA Sandor-Patent-Gr.m.b.H., Switz.
Ger. Offen., 14 pp.
COOEN: GWXEX
T Patent
LA German
PAN.CHI 1
PATEUR VO PATENT NO. KIND DATE APPLICATION NO. DATE PI DE 2927205
GB 2032447
GB 2032447
JP 55013792
FR 2430963
FR 2430963
BR 7904449
PRAI CH 1978-7620
GI A1 B A A1 B1 A 19800124 DE 1979-2927205 GB 1979-24048 19790705 19800508 19790710 19821027 JP 1979-87541 FR 1979-18087 19790712 19800130 19790712

BR 1979-4449

Title dyes with general structure I are prepared, where R and R1 (independently) = C1-4 alkyl, R2 and R3 (independently) = H or C1-4 alkyl, R4 = H, C1-4 alkyl, hydroxyalkyl, or alkoxyalkyl, R5 = halogen, and X = anion. I are fast dyes for acrylic and acid-modified polyamide or polyester fibers. Thus, diazotization of 2,4-C1 (AcNH)C6H3NH2 [16604-99-2], coupling with indiazole [288-32-4], quaternization of the resultant azo intermediate [73447-47-9] with Me2504, and deacetylation of the product gave I (R R1 = Me, R2 = R3 = R4 = H, R5 = X = C1) [73447-48-0], which dyes acrylic or modified polyester fibers fast orange or scarlet shades and showed good nigration ability on acrylic fibers. I (R = R1 = Me, R2 = R3 = H, R4 = CH2CH2OH, R5 = X = C1) [73447-49-1], also giving orange or scarlet dyeings, was prepared by reaction of the 2,4-dichlorophenyl analog with ethanolamine [141-43-5]. 73447-49-0] (Preparation) (manufacture of, as dye for acrylic and acid-modified polyamide or meater

L6 ANSWER 39 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

73447-50-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction with ethanolamine)
73447-50-4 CAFUS
14-Indiazolium, 2-[(2,4-dichlorophenyl)azo]-1,3-dimethyl-,
(T-4)-tetrachlorozincate(2-) (2:1) (9CI) (CA INDEX NAME) IT

CH 1

CRN 50578-81-9 CMF C11 H11 C12 N4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

ANSWER 40 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1979:105617 CAPLUS 90:105617 ACS on STN 20:105617 ACS ON STREET

LA	German				
FAN.	CNT 1				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2819197	A1	19781130	DE 1978-2819197	19780502
	DE 2819197	C2	19890316		
	CH 628077	A5	19820215	CH 1977-6133	19770517
	JP 53141335	A	19781209	JP 1978-57253	19780516
	FR 2393030	A1	19781229	FR 1978-14373	19780516
	FR 2393030	B1	19821126		
	GB 1600458	Α	19811014	GB 1978-19787	19780516
	BR 7803099	Α	19790116	BR 1978-3099	19780517
	ES 469954	A1	19790916	ES 1978-469954	19780517
	FR 2438674	A1	19800509	FR 1978-28776	19781009
	FR 2438674	B1	19821112		
	ES 477830	A1	19791016	ES 1979-477830	19790216
	US 4687842	A	19870818	US 1980-111794	19800114
	CH 627770	A5	19820129	CH 1981-2345	19810407
PRAI	CH 1977-6133	A	19770517		
	CH 1978-3344	Α	19780329		
GI					

$$\begin{bmatrix} R & R^{2} & N = NR^{4} \\ R^{1} & N^{2} & N = NR^{4} \end{bmatrix} \times \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N = N \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N^{2} & N^{2} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{2} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{2} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0} \end{bmatrix} = \begin{bmatrix} C^{1} & N^{0} & N^{0} \\ N^{0} & N^{0} & N^{0$$

Basic dyes of general structure I are prepared, where R and R1 - H, C1-4 alkyl, alkylphenyl, alkoxyphenyl, or halophenyl, R2 and R3 - alkyl, substituted alkyl, or allyl, R4 - substituted p-mainophenyl, and X - and no. I are fast yellow to red dyes for acrylic and acid-modified polyamide or polyester fibers. They can be used alone or especially in conjunction with 1-amidino-4-(phenylazo)-5-pyrazolone dyes. Thus, diazotization of 3,4-C1(AcNH)CGH3NH2 [57556-49-7], coupling with imidazole [288-32-4], quaternization of the monoazo product [69242-27-9] with He2SO4, hydrolysis (HC1) of the AcNH group, and salting gave II [69242-29-1] which dyed acrylic and polyester fibers fast orange shades

ANSWER 41 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1978:424309 CAPLUS 89:24309 Antidepressant phenylazoimidazoles Abdallah. Abdulmuniem H.; Shea, Philip J. Dow Chemical Co., USA U.S., 5 pp. CODEN: USXXXAM PATENT

Patent

FAN. CNT 1				
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4079130	A	19780314	US 1977-794435	19770506
PRAI US 1976-754798	A2	19761227		
OS MARPAT 89:24309				

$$R^2$$
 $N = N$

AB The title compds. I (R = F, H, He, Br, iodo, NO2, CN, Cl, Rl = H, He, Cl, R2 = H, Me, Cl) were prepared by diazotization of an aniline derivative followed

owed by treatment with imidazole. Oral ED50 for antidepressant activity in mice were 19-79 mg/kg; i.p. ED50 were 17-42 mg/kg. I.p. ED50 for controlling anxiety were 4.3-31.6 mg/kg.

00950-93-19 RE: SPN (Synthetic preparation); PREF (Preparation)
(preparation, antidepressant, and anxiety controlling activity of)
65653-85-7 CAPLUS
1H-Imidazole, 2-[(2-fluorophenyl)azo]- (9CI) (CA INDEX NAME)

ANSWER 40 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) and showed good migration ability on acrylic fibers. 65242-24-6F RL: PREP (Preparation) (manufacture of, as dys for acrylic and polyester fibers) 65242-24-6 CAPLUS IH-Indiacolium, 2-f[(4-amino-2,5-dichlorophenyl)azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

• c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IT 69242-23-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deacetylation of)
RN 69242-23-5 CAPLUS
CN 1H-Imidazolium, 2-[[4-(acetylamino)-2,5-dichlorophenyl]azo]-1,3-dimethyl-, chloride (9CI) (CA INDEX NAME)

€ C1 -

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 42 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1978:136622 CAPLUS
DN 88:136622 TapLUS
The second of the secon

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE		
			*				
PI	US 4067973	A	19780110	US 1976-754729	19761227		
PRAI	US 1976-754729	A	19761227				

The title compound (I) was prepared by diazotization of 2-ClCGH4NH2 followed by reaction with imidazole. I was methylated to give the dimethylimidazolium iodide. At 100 mg/kg I reduced Haemonchus eggs in sheep feces by 80%.
66061-03-8P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified), SPN (Synthetic preparation); BIOL (Biological study), FREP (Preparation)
(preparation and anthelminic activity of)
66061-03-8 CAPIUS
HI-Imidazolium, 2-[{2-chlorophenyl}azo]-1,3-dimethyl-, iodide (9CI) (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

```
L6 ANSWER 43 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1966:421326 CAPLUS
DN 65:21326
CREF 65:4004a-a
                                      2-[p-(Phenylazo)phenylazo]imidazoles
Baumann, Hans: Dehnert, Johannes
Badische Anilin- & Soda-Fabrik A.-G.
                                        20 pp.
Patent
LA Unavailable
FAN.CNT 1
PATENT NO.
                                                                                                                                                                                                        KIND
                                                                                                                                                                                                                                                       DATE
                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DATE
                                        BE 662856
FR 1431549
                                                                                                                                                                                                                                                                   19651021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19650421
ΡÎ
                           BE 662856 19651021 BE 1900421
FR 131549 FR
I DE 19640422
Fror diagram(s), see printed CA Issue.
Compds. of the general formulas I and II are prepared and can be used to color varnishes and to dye polyacrylonitrile (III) and polyamide (IV).
Thus, 96 parts 4-MeoCGH4N:NCGH3(NR2)-Me-4,2 is diazotized and coupled with 34 parts imidazole and the product is treated with 28 parts MeSO4 to give, after treatment with HCl and NaCl, II (Y = R = Z = ZZ = H, RI = Me, Z1 = MeO, X = Cl), yellowish brown on III. Similarly prepared are the following II (Y, R, R, Z, Z1 = Z, X, appearance, color in H2O, substrate, and shade on substrate given): H, HeO, He, H, H, Cl-, red brown powder, yellow brown, III, brown orange: H, MeO, MeO, H, H, H, Cl-, red brown powder, plowed brown, III, brown red; Ph, MeO, MeO, H, H, H, MeSO4, --, brown violet, III, corinth H, H, Me, MeO, H, Cl, ZnCl3, powder, yellow, III, brown yellow; H, H, Me, MeO, MeO, Cl, ZnCl3, brown, --, --, --, H, Me, Me, MeO, Cl, brown powder, yellow brown, III, brown iII, brown H, HeO, Me, H, NOZ, H, Cl, brown powder, yellow brown, III, brown h, HeO, H, NOZ, H, Cl, brown powder, yellow brown, III, brown hade on substrate given): H, Me, brown powder, brown yellow in HCONNe2, IV, yellow brown, H, MeO, wellow powder, yellow in 80 Ne2Co, IV, brown red, brown on polyester; Ph, MeO, dark brown, brown violet in HCONNe2, IV, violet. Also prepared is V, dark brown, brown violet in HCONNe2, IV, violet. (phenylazo) phenyl jazo]-1,3-dimethyl-4, chloride 6530-78-5P, Imidazolium, 2-[(2,5-dimethoxy-4-(phenylazo) phenyl) azo]-1,3-dimethyl-1, chloride 6530-73-BP, Imidazolium, 2-[(2,5-dimethoxy-4-(phenylazo) phenyl) azo]-1,3-dimethyl-1, chloride 6730-74DUS
RIE PREP (Preparation of 67630-76-3 RUSS)
Rimidazolium, 2-[(2,5-dimethoxy-4-(phenylazo) phenyl) azo]-1,3-dimethyl-4,5-diphenyl-, methyl sulfate (8CI) (CA INDEX NAME)
  PRAI DE
```

ANSWER 43 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

CM 1

CRN 50568-55-3 CMF C31 H29 N6 02

• c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 6694-62-8 CAPLWS
CN Inidazolium, 2-[[6-methoxy-4-[(p-nitrophenyl)azo]-m-tolyl]azo]-1,3-dimethyl-, chloride (8CI) (CA INDEX NAME)

• c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

ANSWER 43 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 21228-90-0 CMF C H3 04 S

He-0-503-

6530-77-4 CAPLUS
Inidazolium, 2-[[2,5-dimethoxy-4-(phenylazo)phenyl]azo]-1,3-dimethyl-,chloride (8CI) (CA INDEX NAME)

CRN 23603-98-7 CMF C13 Zn CCI CCS

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 6530-78-5 CAPLUS
CN Inidazolium, 2-[[6-methoxy-4-(phenylazo)-m-tolyl]azo]-1,3-dimethyl-,
chloride (8CI) (CA INDEX NAME)

```
ANSWER 44 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN 1965:44406 CAPLUS 64:44406 CAPLUS 64:44506 CAPLUS 64:355d-f Cationic azo dyes Baumann, Hans; Dehnert, Johannes Badische Anilin- & Soda-Fabrik A.-G. 6 pp., Addn. to Ger. 1,098,642 (CA 55, 24039a) Patent Unavailable CNT 1
PA
SO 6 F.
DT Patent
LA Unavailable
FAN.CNT 1
PATENT NO.
137815
                                                                                                                                                                                                          APPLICATION NO.
                                                                                                                     KIND DATE
                                                                                                                                                                                                                                                                                                                 DATE
  PRAIDE 1137815 19621011
PRAIDE 11580930
GI For diagram(s), see printed CA Issue.

AB Azo dyes containing cations of the formula I and suitable for dyeing and printing polyacrylonitrile fibers (II) were prepared Thus, 4-ClCGH4NH2 + indexcole 1000 was methylated at 50-60° with He2So4 125 in CHCI3 1000 in the presence of Mgo 20 and EL3N 80 parts and then N-phenylpherszine 97 added at 50-60°, the nixture stirred for some hrs., HZO 4000 and 304 HACO 250 added while CHCI3 was distilled, the mixt diluted with HZO 8000, and precipitated with NaCl 2000 and 504 ZCL2 200 parts to
    diluted with H2O 8000, and precipitated with NaCl 2000 and 50% 2nCl2 200 parts to
give the ZnCl2-double salt of I (A = 1-phenyl-4-piperazinyl, n = 1), dark brown powder, bordeaux red on II. Similarly, other I were prepared (A, n, and shade on II given): N-piperazinyl, 1, bordeaux red;
14-piperazinylsene, 2, orange red.
15 6089-49-22, laidazolium, 2-[(4-chloro-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, trichlorozincate 13098-72-1P, Imidazolium,
2-[[2-chloro-4-(dimethylamino)phenyl]azo]-1,3-dimethyl-,
trichlorozincate(1-) 107925-63-3P, Bis[2-((4-p-anisidino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium) tetrachlorozincate
RL: PREF (Preparation)
(preparation of)
6089-49-2 CAPLUS
CI Imidazolium, 2-[(4-chloro-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-,
                             Imidazolium, 2-[(4-chloro-2,5-dimethoxyphenyl)azo]-1,3-dimethyl-, trichlorozincate (8CI) (CA INDEX NAME)
                            CRN 47079-62-9
CMF C13 H16 C1 N4 02
     ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
                          CM 2
```

(Continued) L6 ANSWER 44 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

C1 -| 2+ | 2+ | C1 -

13098-72-1 CAPLUS Imidazolium, 2-[(2-chloro-4-(dimethylamino)phenyl]azo]-1,3-dimethyl-, trichlorozincate(1-) (8CI) (CA INDEX NAME)

CRN 50578-86-4 CMF C13 H17 C1 N5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 23603-98-7 CMF C13 Zn CCI CCS

C1-| 2+ -C1-2n-C1-

107925-63-3 CAPLUS
Bis[2-[(4-p-anisidino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium]
tetrachlorozincate (7CI) (CA INDEX NAME)

CRN 47590-14-7 CMF C20 H24 N5 O3

```
L6 ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN
AN 1964:61433 CAPLUS
DN 60:61433
DN 60:61433
New Synthesis of diszastyryl dyes
AD Baumann, H. Dehnert, J.
Badische Anilin-Soda-Pabrik, A.-G., Ludwigshafen am Rhein, Germany
Chimia (1961), 15(1), 163-8
CODEN: CHIMAD; ISSN: 0009-4293
DJ JOURNAL
                                Ochimia (1961), 15(1), 163-8
CODEN: CHIMADN ISSN: 0009-4293
Journal
A German
I For diagram(s), see printed CA Issue.
Arylamines diazotized and coupled with imidazole give weakly colored dyes.
Alkylation gives I (X. Amaximum, in mw (in H2O at pH 5), and
e + 10-3 given): H, 357, 21.9 Me, 368, 24.0 of 21,365, 25.4.
Introduction of MeO leads to possible oxonium structures and increased
color: I (X = OMe), Amaximum = 394 mm, e + 10-3 =
26.5; I (X = NHAC), Amaximum = 394 mm, e + 10-3 =
31.7. I (X = NNE2) is a red dye while II is blue-violet. The dye from
2,4-C1(HZN)CGHENNECHANNE2-4 is green-blue, I (X = C1) with amines gives
the corresponding 4-amino compds. Other 4-substituents such as OH, OR,
SO3H, SO3H, and even H can be displaced by amines. III (X, R,
Amaximum in mm, and = + 10-3 given) are reported:
ONE, OMe, 365, 11.1, 489, 23.2; C1, ONE, 358, 16.5, 471, 12.5; morpholino,
H, 504, 37.0; morpholino, ONE, 524, 32.5; NNE2, H, 522, 48.2; NNE2, OME,
541, 49.3; piperidino, H, 527, 46.0; piperidino, ONE, 551, 49.0; NIPh, ONE
526,-; NNCCHAOMe-4, ONE, 526,-; NNCCHAOMe-4, ONE, 527, 4. (NE, 526,-; NNCCHAOMe-4, ONE, 527,-; NNCCHAOMe-4, ONE, 527, -; NNCCHAOM
```

L6 ANSWER 44 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) Bis-[2-[(4-chloro-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 47079-62-9 CMF C13 H16 C1 N4 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 2n CCI CCS

106095-98-1 CAPLUS
Bis[1,3-dimethyl-2-[(2,4,5-trimethoxyphenyl)azo]imidazolium]
tetrachlorozincate (7CI) (CA INDEX NAME)

CRN 106095-97-0 CMF C14 H19 N4 O3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

L6 ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

106632-96-6 CAPLUS
Bis[2-[(2,5-dimethoxy-4-morpholinophenyl)azo]-1,3dimethylimidazolium]tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 106632-95-5 CMF C17 H24 N5 03

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

-C1-| 2+ | C1-

106653-66-1 CAPLUS
Bis[2-[[4-(p-anilinoanilino)-2,5-dimethoxyphenyl]azo]-1,3dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 106653-65-0 CMF C25 H27 N6 O2

ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

107308-12-3 CAPLUS
Bis[2-[[4-{p-acetamidoanilino}-2,5-dimethoxyphenyl]azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 107308-11-2 CMF C21 H25 N6 03

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

107892-86-4 CAPLUS Bis[2-[[4-(2,4-dimethoxyanilino)-2,5-dimethoxyphenyl]azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 107892-85-3 CMF C21 H26 N5 O4

L6 ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

106992-13-6 CAPLUS
Bis[2-[(2,5-dimethoxy-4-piperidinophenyl)azo]-1,3dimethylimidazolium]tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 106992-12-5 CMF C18 H26 N5 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

107925-63-3 CAPLUS Bis[2-1(4-p-anisidino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CH 1

CRN 47590-14-7 CMF C20 H24 N5 O3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on SIN (Continued)

108037-15-6 CAPLUS Bis[2-(4-anilino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium]tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 108037-14-5 CMF C19 H22 N5 02

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 2n CCI CCS

108348-42-1 CAPLUS
Bis[2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 84787-98-4 CMF C15 H22 N5 O2

ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ANSWER 45 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

108538-04-1 CAPLUS
Bis[2-[[2,5-dimethoxy-4-(1-pyrrolidinyl)phenyl]azo]-1,3dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 108538-03-0 CMF C17 H24 N5 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

PATENT NO. KIND DATE APPLICATION NO. DATE PALENT NO.

PI GB 885046
 DE 1098642
 DE 1137816
 NL 6609135
 US 3102879
 US 3216995
 PRAI DE GB 1959-21806 19611220 19590625 NL US 1959-821644 US 1962-227522 NL 6693135 NL 1959-821644 19590622 US 3102879 19630903 US 1959-821644 19590622 US 3216995 19651109 US 1962-227522 19621001 DE 19580625 For diagram(s), see printed CA Issue. Azo dyes contg, cations of the formula I and suitable for dyeing and printing polyacrylonitrile fibers were prepared Thus, 4-ClC6H4NH2 → imidazole was methylated at 50° with 2 moles Me2504 in CHC13 in the presence of 1 mole MgO, and evaporated in vacuo to give the methosulfate GI AB (II) of I, R = H, λ = 4-ClC6H4. II 22 was pasted with H20 8, stirred with 40% Me2NH 30, evaporated, the residue dissolved in H20 500, acidified with AcOH 10, 50% aqueous ZnCl2 70 parts added, and precipitated with KCl to give the 10, 50% aqueous ZnCl2 70 parts added, and precipitated with KCl to give the 12 double salt of I, R = H, A = 4-Me2NC6H4, fast red on polyacrylonitrile. Similarly, other I were prepared (R, A, and shade on polyacrylonitrile given): H, 4-morpholinophenyl, red; H, 2,5-dimethoxy-4-piperidinophenyl, red-violet: H, 2,5-dimethoxy-4-piperidinophenyl, red-violet: Ph, 4-MecOGH48HH)C6H2, red-violet: H, 2,4-C1(Me2NC6H3, yellowish red; H, 2,5,4-(Me0) 2(4-MeoCGH48HH)C6H2, red-violet: H, 4-piperidinophenyl, bluish red; H, 2,5,4-(Me0) 2(MeZN)C6H2, red-violet. Robert ZnC12

ANSWER 46 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

● c1-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 100775-99-3 CAPLUS CN Bi9[2-[(5-chlor-2-4-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 100775-98-2 CMF C13 H16 C1 N4 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CP4 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

106305-25-3 CAPLUS
2,2'-[(3,3'-Dimethoxy-4,4'-biphenylylene)bis(azo)]bis[1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

ANSWER 46 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

107925-63-3 CAPLUS
Bis[2-[(4-p-anisidino-2,5-dimethoxyphenyl)szo]-1,3-dimethylimidazolium]
tetrachlorozincate (7CI) (CA INDEX NAME)

CRN 47590-14-7 CMF C20 H24 N5 03

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CRN 15201-05-5 CMF C14 Zn CCI CCS

L6 ANSWER 46 OF 46 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

106992-13-6 CAPLUS
Bis[2-[(2,5-dimethoxy-4-piperidinophenyl)azo]-1,3dimethylimidazolium]tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 106992-12-5 CMF C18 H26 N5 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

10/565,137 Page 44

=> fil caol
FILE 'CAOLD' ENTERED AT 14:26:40 ON 11 JAN 2007
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2007 AMERICAN CHEMICAL SOCIETY (ACS)

FILE COVERS 1907-1966 FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s 15 L7 5 L5

=> d 1-5 all hitstr

```
ANSWER 1 OF 5 CAOLD COPYRIGHT 2007 ACS on STN CA65:4004a CAOLD 2-[p-(phenylazo)phenylazo]imidazoles Baumann, Hansı Dehnert, J. Badische Anilin- & Soda-Fabrik A.-G.
                                                        Patent
PATENT NO. KIND DATE
                                                     DATE

BE 662856
FR 1431549
6530-72-9
6530-73-0
6530-74-1
6530-75-2
6530-77-4
6530-78-5
6530-79-6
6530-77-6
6530-77-6
6530-78-5
6530-78-5
6530-78-5
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
6530-78-3
ΡI
IT
IT
                                                           CM 1
                                                           CRN 50568-55-3
CMF C31 H29 N6 O2
```

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2 .

CRN 21228-90-0 CMF C H3 O4 S

Me-0-503-

6530-77-4 CAOLD GBSU-17-4 CAOLD Imidazolium, 2-[(2,5-dimethoxy-4-(phenylazo)phenyl]azo]-1,3-dimethyl-, chloride (8CI) (CA INDEX NAME)

ANSWER 1 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued) L7 ANSWER 1 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE
RN 6530-78-5 CAOLD
CN Indiacolium, 2-[[6-methoxy-4-{phenylazo}-m-tolyl]azo]-1,3-dimethyl-,
chloride (8CI) (CA INDEX NAME)

• c1

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 6694-62-8 CAOLD CN Indacolium, 2-[[6-methoxy-4-[(p-nitrophenyl)azo]-m-tolyl]azo]-1,3-dimethyl-, chloride (8CI) (CA INDEX NAME)

€ c1 ~

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

```
ANSWER 2 OF 5 CAOLD COPYRIGHT 2007 ACS on STN CA56:8355d CAOLD cationic azo dyes Baumann, Hansı Dehnert, J.
                                                    Patent
                                                    dyes (cationic azo)
Badische Anilin- & Soda-Fabrik A.-G.
Patent
                                                    PATENT NO. KIND DATE
                                         DE 137815

DE 137815

G089-45-8

G089-45-8

G089-49-1

G089-49-2

G089-50-5

G089-49-2

G089-49-2

G089-49-2

G089-49-2

G089-49-2

G089-50-5

G089-49-2

IT
                                                    CRN 47079-62-9
CMF C13 H16 C1 N4 O2
```

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2 CRN 23603-98-7 CMF C13 Zn CCI CCS

6670-60-6 CAOLD
1H-Imidazolium, 2-{[2,5-dimethoxy-4-[(4-methoxyphenyl)amino]phenyl]azo]-1,3-dimethyl-, trichlorozincate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 47590-14-7 CMF C20 H24 N5 03

ANSWER 2 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 23603-98-7 CMF C13 Zn CCI CCS

13098-72-1 CAOLD Imidazolium, 2-[[2-chloro-4-(dimethylamino)phenyl]azo]-1,3-dimethyl-, trichlorozincate(1-) (8CI) (CA INDEX NAME)

OM 1

CRN 50578-86-4 CMF C13 H17 C1 N5

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 23603-98-7 CMF C13 Zn CCI CCS

ANSWER 3 OF 5 CAOLD COPYRIGHT 2007 ACS on STN CA63:3006g CAOLD dyes (insol.) - Geigy, Jr., A.-G. Patent PATENT NO. KIND DATE NL 6409217 E 650733 FR 1410273 1733-46-2 1573-47-3 1767-15-3 1767-16-4 1773-69-9 1773-70-2 1773-71-3 1898-19-7 2270-05-5 95947-42-5 2270-05-5 CAOLD Indiazolium, 2,2'-[(3,3'-dimethoxy-4,4'-biphenylylene)bis(azo)]bis[1,3-dimethyl-, ddiodide (8CI) (CA INDEX NAME)

●2 I-

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

L7 ANSWER 2 OF 5 CAOLD COPYRIGHT 2007 ACS on STN 107925-63-3 CAOLD Bis[2-[(4-p-anisidino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME) CM 1

CRN 47590-14-7 CMF C20 H24 N5 03

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

-c1- zn -c1-

ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN CA60:10828h CAOLD synthesis of diazastry1 dyes Baumann, Hans; Dehnett, J. 68936-17-4 91493-32-2 100802-85-5 101120-16-5 101147-51-7 105002-99-1 105003-01-8 105002-098-2 105145-43-5 106095-98-1 106234-33-7 106632-96-6 106653-66-1 106992-13-6 107308-12-3 107892-86-4 107925-63-3 108037-15-6 108348-42-1 108537-51-5 108538-04-1 100802-85-5 106095-99-1 106632-96-6 106653-66-1 106992-13-6 107308-12-3 107892-86-4 107925-63-3 108037-15-6 108348-42-1 108538-04-1 109802-85-5 106095-89-1 106538-96-6 10695-85-5 10695-85-3 108037-15-6 108348-42-1 108538-04-1 108020-85-5 CAOLD Bis-[2-{(4-chloro-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachloroxincate (7CI) (CA INDEX NAME) CM 1 CRN 47079-62-9 CMF C13 H16 C1 N4 02

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

106095-98-1 CAOLD Bis[1,3-dimethyl-2-[(2,4,5-trimethoxyphenyl)azo]imidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 106095-97-0 CMF C14 H19 N4 03

ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

106632-96-6 CAOLD Bis[2-{(2,5-dimethoxy-4-morpholinophenyl)azo]-1,3-dimethylimidazolium]tetrachlorozincate (7CI) (CA INDEX NAME)

CH 1

CRN 106632-95-5 CMF C17 H24 N5 O3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

L7 ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

107308-12-3 CAOLD
Bis[2-[[4-(p-acetamidosnilino)-2,5-dimethoxyphenyl]azo]-1,3-dimethylimidazolium] tetrachlorozincate {7CI} (CA INDEX NAME)

CM 1

CRN 107308-11-2 CMF C21 H25 N6 O3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

L7 ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

106653-66-1 CAOLD Bis[2-{[4-(p-anilinoanilino)-2,5-dimethoxyphenyl]szo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 106653-65-0 CMF C25 H27 N6 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

106992-13-6 CAOLD Bis[2-[(2,5-dimethoxy-4-piperidinophenyl)azo]-1,3-dimethylimidazoliumjtetrachlorozincate (7CI) (CA INDEX NAME)

CRN 106992-12-5 CMF C18 H26 N5 02

L7 ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN

107892-86-4 CAOLD
Bis[2-[[4-(2,4-dimethoxyanilino)-2,5-dimethoxyphenyl]azo]-1,3dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CM 1

CRN 107892-85-3 CMF C21 H26 N5 O4

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2 '

CRN 15201-05-5 CMF C14 Zn CCI CCS

107925-63-3 CAOLD Bis[2-[(4-p-anisidino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CH 1

CRN 47590-14-7 CMF C20 H24 N5 O3

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN CRN 15201-05-5 CMF C14 2n CCI CCS (Continued)

108037-15-6 CAOLD Bis[2-[(4-anilino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CH 1

CRN 108037-14-5 CMF C19 H22 N5 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

108348-42-1 CAOLD Bis[2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CRN 84787-98-4 CMF C15 H22 N5 O2

ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

ANSWER 4 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

108538-04-1 CAOLD Bis[2-[[2,5-dimethoxy-4-(1-pyrrolidinyl)phenyl]azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CRN 108538-03-0 CMF C17 H24 N5 02

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

```
ANSWER 5 OF 5 CAOLD COPYRIGHT 2007 ACS on STN CA60:1869d CAOLD cationic azo dyes Baunann, Hans; Dehnert, J. Patent dyes (cationic) Badische Anilin- & Soda-Fabrik A.-G. Patent PATENT NO. KIND DATE
                  GB 885046
DE 1098642
DE 1137816
NL 6609135
US 3102879
DF 1963
US 3216995
1965
68936-17-4
.73287-60-2
100521-71-1
105202-98-2
105185-33-5
106305-25-3
106305-25-3
106305-25-3
106305-25-3
106305-25-3
106305-25-3
106305-30
73287-60-2
100735-99-3
106305-30
73287-60-2
100735-99-3
106305-30
73287-60-2
100735-99-3
106305-30
73287-60-2
100735-99-3
106305-25-3
106392-13-6
107925-63-3
73287-60-2
2ADLD
H-Imidazolium, 2-[[4-(dimethylamino)-2,5-dimethoxyphenyl]azo]-1,3-dimethyl-, chloride (9Cl) (CA INDEX NAME)
 ΙŢ
RN
CN
```

• c1

ONE OR HORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE RN 100775-99-3 CAOLD CN Bis[2-(15-chloro-2,4-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CH 1

CRN 100775-98-2 CMF C13 H16 C1 N4 O2

L7 ANSWER 5 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued) ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE.

CH 2

CRN 15201-05-5 CMF Cl4 Zn CCI CCS

106305-25-3 CAOLD 2,2'-[(3,3'-Dimethoxy-4,4'-biphenylylene)bis(azo)]bis[1,3-dimethylimidazolium] tetrachlorozincate (7CI) (CA INDEX NAME)

CH 1

CRN 106305-24-2 CMF C24 H28 N8 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

106992-13-6 CAOLD
Bis[2-[{2,5-dimethoxy-4-piperidinophenyl)azo]-1,3dimethylimidazolium]tetrachlorozincate (7CI) (CA INDEX NAME)

CN 1

L7 ANSWER 5 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

L7 ANSWER 5 OF 5 CAOLD COPYRIGHT 2007 ACS on STN (Continued)

CRN 106992-12-5 CMF C18 H26 N5 O2

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CH 2

CRN 15201-05-5 CMF C14 Zn CCI CCS

107925-63-3 CAOLD Bis[2-[(4-p-anisidino-2,5-dimethoxyphenyl)azo]-1,3-dimethylimidazolium] tetrachlorozincate [7CI] (CA INDEX NAME)

CRN 47590-14-7 CMF C20 H24 N5 03

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

CM 2

=> => d que	113	stat							
L8	30	SEA FILE=CAPLUS ABB=ON PI	LU=ON ("ELIU VICTOR"/AU OR "ELIU						
		VICTOR PAUL"/AU)							
L9		-	LU=ON "FROHLING BEATE"/AU						
L10	17	SEA FILE=CAPLUS ABB=ON PI	LU=ON ("FROEHLING BEATE"/AU OR						
"FROEHLING BEATE SUSANNE"/AU)									
L11	38	SEA FILE=CAPLUS ABB=ON PI	LU=ON L8 OR L9 OR L10						
L12	14	SEA FILE=CAPLUS ABB=ON PI	LU=ON L11 AND CATIONIC						
L13	8	SEA FILE=CAPLUS ABB=ON PI	LU=ON L12 AND (AZO OR MONOAZO)						

=> d 1-8 bib abs

```
L13 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1338094 CAPLUS
TI Preparation of cationic oligomeric azo dyes
IN Eliu, Victor Pauly Froehling, Beate; Kauffmann,
Dominique
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl. 63pp.
CODEN: FIXXD2
TP PATENT
LA English
PAN.CNT 1
PATENT NO.

KIND DATE APPLICATION NO.

DATE

PI WO 2006:134051 A1 2006:1221 WO 2006-EP62976 2006607
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BB, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FT, GB, GR,
KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, HG, MK, MN, MW,
MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, SM, SW, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VZ,
VN, YU, ZA, ZW, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FT, FR, GB, GR, HJ, LE,
1S, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
CR, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, TD, TG, BW, GH,
RC, KE, LS, HW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, MM, AZ, BY,
KG, KZ, MD, RU, TJ, TM
PRAI EP 2005-105233 A 20050615
```

AB Disclosed are oligomeric cationic azo dyes of formula

I, wherein their salts, isomers, hydrates and other solvates, wherein Rl
is hydrogen: C1-C12 alkyl, which may be substituted by one or more C1-C5
alkyl, C1-C5-alkoxy, hydroxy or -(C0)-H: -(C0)-C1-C5 alkyl: Ph or
phenyl-C1-C4 alkyl, wherein the Ph moiety may be substituted by one or
more C1-C5 alkyl, C1-C5 alkoxy, halogen, -NHZ, mono-C1-C5 alkylamino,
d1-C1-C5 alkylamino, -NO2, carboxy or hydroxy; R2 is hydrogen; or C1-C5
alkyl: X is C1-C10 alkylene, which may be substituted by one or more C1-C5
alkyl, hydroxy, C1-C5 alkoxy, amino, mono-C1-C5 alkylamino, d1-C1-C5
alkylamino, -SH, and/or interrupted by one or more -0 or -S-S-; C5-C10
cycloalkylene; C5-C12 arylene; C5-C12 arylene; C1-C10 alkylene);
biphenylene, which may be substituted by one or more C1-C5 alkyl, hydroxy,
C1-C5 alkoxy, amino, mono-C1-C5 alkylamino, d1-C1-C5 alkylamino, -SH,

ne, and optionally a coupling component. Further, the present invention relates to novel compds. and compns. thereof. Thus, a dye emulsion contained 0.01, cetearyl alc. 3.5, Ceteareth-80 1.0, glyceryl mono/disterate 0.5, stearamphopropyl sulfonate 1.0, Polyquaternium-6 0.5, and water qs to 100%.

2.13 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) and/or interrupted by one or more -O-, Cl-C4 alkylene, -NR3-, -S- or -S-S-; R3 is hydrogen; Cl-C12 alkyl-C2-C14 alkenyl; C6-C12 aryl-Cl-C12 alkyl, or Cl-C12 alkyl-C6-C12 aryl-Y is an anion; Z is l,3-thiazolyl; 1,2-thiazolyl; 1,3-benzothiazolyl; 2,3-benzothiazolyl; imidazolyl; 1,3-thiazolyl; pyrazolyl; benzinidazolyl; benzoryrazolyl; pyridinyl; quinolinyl; pyramidinyl; or isoxazolyl; and n is a no. from 2-100. Purthermore, the present invention relates to novel cationic oligomeric azo dyes, compns, thereof, esp. comprising other dyes, and to application for hair dying. Thus, 2.4-difluoroaniline was reacted with imidazole to obtain an azo dye which was reacted withy dimethylsulfate to obtain a quaternized salt. A dye emulsion contg. 1% of the above dye was used to dye hair to a red-brown color.

AB Cationic 1,3-disubstituted 2-(phenylazo)imidazolium cationic direct dyes and 2-(2-fluorophenylazo)imidazole dyes are presented for hair dye compns. Further, the present invention relates to compns. thereof, especially comprising other dyes, to processes for the preparation

CH2-NMe2

Me -- 0503

L13 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) thereof and to the use thereof in the dyeing of org. material, such as keratin, wool, leather, silk, paper, cellulose or polyamides, esp. keratin-conty, fibers, cotton or nylon, and preferably human hair. Such compns. may comprise in addh. (a) at least a single further direct dye and/or an oxidative agent, (b) at least a single oxidative dye or (c) at least a single oxidative dye or (c) at soln. conty, I and Plantaren 2000 surfactant tested on human hair. RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

$$Q^{1} = - \stackrel{+}{N} \underbrace{ \begin{array}{c} R^{4} \\ N-N \\ N-N \\ X^{-} \end{array}}_{R^{2}} \stackrel{R^{3}}{\longrightarrow} 0$$

AB The present invention relates to cationic dyes I and II, wherein A is Q1 or Q2, wherein R1 and R2 are each independently of the other unsubstituted or substituted C1-C14 alkyl or an aryl radical, R3 is hydrogen, unsubstituted or substituted C1-C14 alkyl, unsubstituted or substituted C1-C14 alkow, cyano or halo, R4 is hydrogen, unsubstituted or substituted C1-C14 alkyl or an aryl radical, and X- is an anion. Further, the present invention relates to compns. thereof, especially comprising other

dyes, to processes for the preparation thereof and to the use thereof in the dyeing of organic material, such as paper and human hair with shades that the

fast to washing, light, shampooing, and rubbing. A typical dye was manufactured by adding 16.5 g 4-pyridinealdehyde in 15 min to H2SO4 14,

r
42, and a-methylphenylhydrazine 16.2 at 293K with stirring, stirring
1 h, adjusting the pH to 2.2 with aqueous NaOH, adding 2.7 g NaCl at 333K,
stirring 1 h, dissolving the 39.3 g resulting hydrazone in 200 g iso-PrOH,
adding 27 g 4,4"-bis(chloromethyl)biphenyl, heating to 338K, and stirring
5 h.

L13 AN DN	ANSWER 4 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN 2004:801976 CAPLUS 141:315835																	
TI	Cationic dimeric dyes having aminoazomethine or azo groups																	
IN	Eliu, Victor Paul; Frohling, Beate																	
PA	Germany																	
so		U.S. Pat. Appl. Publ., 48 pp.																
	CO	DEN:	USXX	co			•	•										
DT	Patent																	
LA	English																	
FAN.	CNT	1																
	PA:	CENT :	NO.			KIN	D	DATE			APPL	ICAT	ION	NO.		D	ATE	
							_											
PI				A1 20040930			US 2004-801892											
			14222107 A1											20040308				
	WO	2004	0833	12		A2		2004	0930		WO 2	004-	EP50	268		2	0040	308
		W:	ΑE,	AG,	λL,	AM,	AT,	AU,	λZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH
			CN,	co,	CR,	CU,	CZ,	DE,	DK,	DM.	DZ,	EC,	EE.	EG,	ES,	FI,	GB,	GD
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KZ,	LC
			LK,	LR,	LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NA,	NI
			NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,	SG,	SK,	SL,	SY
								TZ,										
		RW:	ΒW,	GH,	GM,	ΚE,	LS,	MW,	MZ,	SD,	SL,	5Z,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ
			BY,	KG,	KZ,	MD,	RU,	TJ,	TM,	λT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE
			ES,	FI,	FR,	GB,	GR,	HU,	IE,	IT,	LU,	MC,	NL,	PL,	PT,	RO,	SE,	SI
			SK,	TR,	BF,	BJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN
			TD,															
	EΡ	1622				A2		2006										
		R:						ES,										
			IE,	SI,	LT,	LV,	FI,	RO,	MX,	CY,	AL,	TR,	ВG,	CZ,	EE,	ΗU,	PL,	SX
	BR	2004	0084	36		Α		2006	0404		BR 2	004-	8436			2	0040	308
	CN	1761	448			A		2006	0419		CN 2	004-	8000	7278		2	0040	308
	JP	2006	5204	17		T		2006	0907		JP 2	006-	5054	49		2	0040	308
PRAI	EP	2003	-405	185		A		2003	0318									
	WO	2004 1761 2006 2003 2004	EP5	0268		A		2004	0308									
05	MAI	RPAT	141:	3158	35													
GI																		

AB The cationic dyes can be represented by a general formula I, wherein RI, R7 are hydrogen, hydroxyl, unsubstituted or substituted C1-6 alkyl, aryl or alkoxy, or -NR3R 4, R3, R4 are hydrogen, unsubstituted or substituted aryl or C1-6 alkyl, R2 is hydrogen, hydroxyl, unsubstituted or substituted C1-6 alkyl, aryl or alkoxy, -NR3R4, or II, with R5-H, unsubstituted or substituted aryl or C1-6 alkyl, and X - is an anion. The dyes can be sued for compns., especially comprising other dyes, preferably

L13 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN (Continued) the use in human hair dyeing, as well as org. material, such as keratin, wool, leather, silk, cellulose or polyamides.

L13 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

AB The invention relates to cationic dyes [I, II, and III; R1, R2 = C1-8-alkyl, optionally substituted benzyl; R3 = H, C1-8-alkyl, C1-8-alkoxy, CN, halo; R4 = C1-8-alkyl, optionally substituted aryl; X- = anion). The dyes have brilliant shades and good fastness on fibers, especially hair. In an example, phenylhydrazine was condensed with 4-acetylpyridine

especially
hair. In an example, phenylhydrazine was condensed with 4-acetylpyridine
and the resulting hydrazone was treated with Me2504 to give a brown dye.
RE.CHT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L13 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:58169 CAPLUS
DN 138:108247
TI Cationic azo dyes, their production and their use in
hair coloration,
IN Mosckii, Peter; Froehling, Beate Susanne
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 73 pp.
CODEN: PIXKD2
DT Patent
LA English
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 2003006554 A1 20030123 WO 2001-EP8032 20010711
PATENT NO. CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MX, MN, MW, MX, MZ, NO, NZ, PL, PT,
RO, RU, SD, SS, SS, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
UZ, VN, YU, ZA, ZW
RV: GH, GM, KE, LS, NW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, EF,
BJ, CF, CG, CI, CM, GA, CM, GW, ML, MR, NE, SN, TD, TG
EP 1404762 A1 20040407 EP 2001-957955 20010711
R: SI, LT, LV, FI, RO, MK, CY, AL, TR
US 2004143918 B2 20060718
PATAL WO 2001-EP8032 W 20010711
OS MARPAT 138:108247
```

AB Imidazolium azo dyes (I; A- = anion; R1, R2 = H, optionally substituted C1-4-alkyl; R3, R4 = H, optionally substituted C1-4-alkyl, C1-4-alkoxy, halogen; R5 = H, C1-4-alkyl, C1-4-alkoxy, halogen; X = aminocarbonyl-based group; Y1, Y2 = H, optionally substituted C1-4-alkyl, halogen) are obtained for use in components in direct and oxidative hair dyes. The dyes have improved stability in aqueous solution at pH 5-10. In

example, 2-[4-(4-aminophenylamino)phenylazo]-1,3-dimethylimidazolium chloride was N-acetylated to give an acetanilide derivative product which

L13 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)
yak hair a brilliant red-tinged violet.
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

10/565,137 Page 55

=> d his full

(FILE 'HOME' ENTERED AT 14:22:39 ON 11 JAN 2007)

FILE 'REGISTRY' ENTERED AT 14:22:48 ON 11 JAN 2007

L1STRUCTURE UPLOADED

L2STRUCTURE UPLOADED L3

STRUCTURE UPLOADED

D L1 D L2 D L3

L48 SEA SSS SAM L1 OR L2 OR L3

200 SEA SSS FUL L1 OR L2 OR L3 L5

FILE 'CAPLUS' ENTERED AT 14:25:08 ON 11 JAN 2007

46 SEA ABB=ON PLU=ON L5 L6

D QUE L6 STAT

D 1-46 BIB ABS HITSTR

FILE 'CAOLD' ENTERED AT 14:26:40 ON 11 JAN 2007

L7 5 SEA ABB=ON PLU=ON L5

D 1-5 ALL HITSTR E ELIU VICTOR/AU

FILE 'CAPLUS' ENTERED AT 14:27:44 ON 11 JAN 2007

E ELIU VICTOR/AU

30 SEA ABB=ON PLÙ=ON ("ELIU VICTOR"/AU OR "ELIU VICTOR PAUL"/AU) L8

E FROHLING BEATE/AU

4 SEA ABB=ON PLU=ON "FROHLING BEATE"/AU L9

E FROEHLING BEATE/AU

L10 17 SEA ABB=ON PLU=ON ("FROEHLING BEATE"/AU OR "FROEHLING BEATE

SUSANNE"/AU)

38 SEA ABB=ON PLU=ON L8 OR L9 OR L10 L11L12

14 SEA ABB=ON PLU=ON L11 AND CATIONIC

8 SEA ABB=ON PLU=ON L12 AND (AZO OR MONOAZO) L13

D QUE L13 STAT

D 1-8 BIB ABS

FILE HOME

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 10 JAN 2007 HIGHEST RN 917201-58-2 DICTIONARY FILE UPDATES: 10 JAN 2007 HIGHEST RN 917201-58-2

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and

10/565,137 Page 56

predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE CAPLUS

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 11 Jan 2007 VOL 146 ISS 3 FILE LAST UPDATED: 10 Jan 2007 (20070110/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/infopolicy.html

FILE CAOLD

FILE COVERS 1907-1966

FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

STN INTERNATIONAL LOGOFF AT 14:29:52 ON 11 JAN 2007